

AV Surround Receiver
SR5015

- For purposes of improvement, specifications and design are subject to change without notice.
- Please use this service manual when referring to the operating instructions without fail.
- Some illustrations used in this service manual are slightly different from the actual product.

Click here!

On-line service parts list

<https://dmedia.soundunited.com/documents/details/27392>

[ONLINE PARTS LIST](#) (P5)

WEB owner's manual

NA: <http://manuals.marantz.com/SR5015/NA/EN/index.php>

EU: <http://manuals.marantz.com/SR5015/EU/EN/index.php>

AP: <http://manuals.marantz.com/SR5015/AP/ZH/index.php>

Upload is planned for the time of a future press release.

BEFORE SERVICING THIS UNIT**ELECTRICAL****MECHANICAL****REPAIR INFORMATION****UPDATING****Confidential**

BEFORE SERVICING THIS UNIT

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SAFETY PRECAUTIONS

The following items should be checked for continued protection of the customer and the service technician.

Leakage current check

Before returning the set to the customer, be sure to carry out either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the set is defective.

Be sure to test for leakage current with the AC plug in both polarities, in addition, when the set's power is in each state (on, off and standby mode), if applicable.

CAUTION

Please heed the following cautions and instructions during servicing and inspection.

ⓘ Heed the cautions!

Cautions which are delicate in particular for servicing are labeled on the cabinets, the parts and the chassis, etc. Be sure to heed these cautions and the cautions described in the handling instructions.

ⓘ Cautions concerning electric shock!

- (1) An AC voltage is impressed on this set, so if you touch internal metal parts when the set is energized, you may get an electric shock. Avoid getting an electric shock, by using an isolating transformer and wearing gloves when servicing while the set is energized, or by unplugging the power cord when replacing parts, for example.
- (2) There are high voltage parts inside. Handle with extra care when the set is energized.

ⓘ Caution concerning disassembly and assembly!

Through great care is taken when parts were manufactured from sheet metal, there may be burrs on the edges of parts. The burrs could cause injury if fingers are moved across them in some rare cases. Wear gloves to protect your hands.

ⓘ Use only designated parts!

The set's parts have specific safety properties (fire resistance, voltage resistance, etc.). Be sure to use parts which have the same properties for replacement. The burrs have the same properties. In particular, for the important safety parts that are indicated by the ⚠ mark on schematic diagrams and parts lists, be sure to use the designated parts.

ⓘ Be sure to mount parts and arrange the wires as they were originally placed!

For safety reasons, some parts use tapes, tubes or other insulating materials, and some parts are mounted away from the surface of printed circuit boards. Care should also be taken with the positions of the wires by arranging them and using clamps to keep them away from heating and high voltage parts, so be sure to set everything back as it was originally placed.

ⓘ Make a safety check after servicing!

Check that all screws, parts and wires removed or disconnected when servicing have been put back in their original positions, check that no serviced parts have deteriorated the area around. Then make an insulation, check on the external metal connectors and between the blades of the power plug. And otherwise check that safety is ensured.

(Insulation check procedure)

Unplug the power cord from the power outlet, disconnect the antenna, plugs, etc., and on the power.

Using a 500V insulation resistance tester, check that the insulation resistance value between the inplug and the externally exposed metal parts (antenna terminal, headphones terminal, input terminal, etc.) is 1M Ω or greater. If it is less, the set must be inspected and repaired.

CAUTION

Concerning important safety parts

Many of the electric and the structural parts used in the set have special safety properties. In most cases these properties are difficult to distinguish by sight, and the use of replacement parts with higher ratings (rated power and withstand voltage) does not necessarily guarantee that safety performance will be preserved. Parts with safety properties are indicated as shown below on the wiring diagrams and the parts list in this service manual. Be sure to replace them with the parts which have the designated part number.

- (1) Schematic diagrams Indicated by the ⚠ mark.
- (2) Parts lists Indicated by the ⚠ mark.

The use of parts other than the designated parts could cause electric shocks, fires or other dangerous situations.

NOTE FOR SCHEMATIC DIAGRAM

WARNING:

Parts indicated by the \triangle mark have critical characteristics. Use ONLY replacement parts recommended by the manufacturer.

CAUTION:

Before returning the set to the customer, be sure to carry out either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the set is defective.

WARNING:

DO NOT return the set to the customer unless the problem is identified and remedied.

NOTICE:

- (1) ALL RESISTANCE VALUES IN OHM. $k=1,000$ OHM / $M=1,000,000$ OHM
- (2) ALL CAPACITANCE VALUES ARE EXPRESSED IN MICRO FARAD, UNLESS OTHERWISE INDICATED. P INDICATES MICRO-MICRO FARAD. N INDICATES NANO FARAD.
- (3) EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
- (4) CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

HANDLING THE SEMICONDUCTOR AND OPTICS

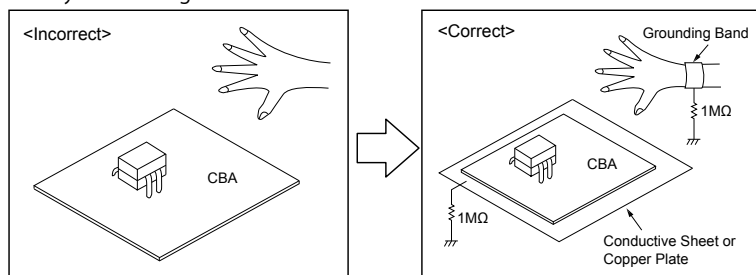
Electrostatic breakdown of the semi-conductors or optical pickup may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

1. Ground for Human Body

Be sure to wear a grounding band (1 M ohm) that is properly grounded to remove any static electricity that may be charged on the body.

2. Ground for Workbench

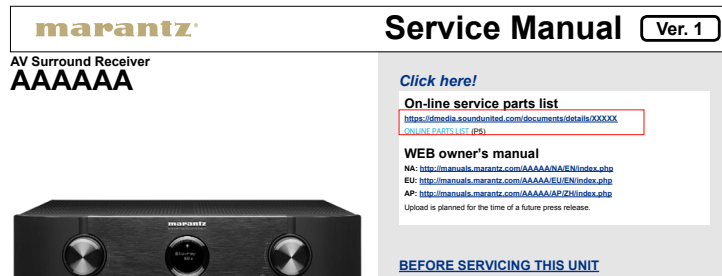
Be sure to place a conductive sheet or copper plate with proper grounding (1 M ohm) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semi-conductors with your clothing



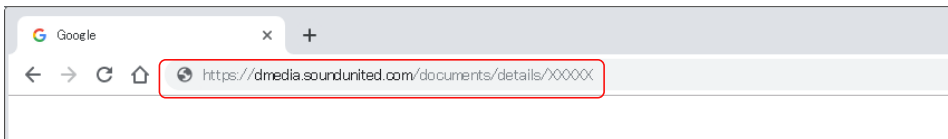
ONLINE PARTS LIST

Accessing the Parts List

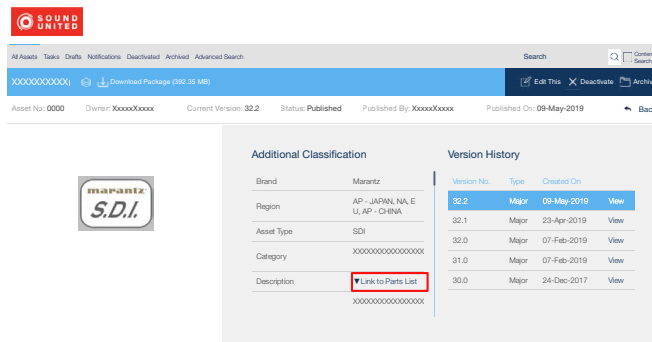
- (1) Access from the Service Manual
 - Click the URL link on the cover of the service manual.
- Examples of display



NOTE: If the web browser does not open automatically, copy the URL and paste it into the address bar of the web browser and then press Enter.



- (2) Accessing the Part List from the Model Asset Screen.
 - Display Model Asset from New SDI.
 - Click the section displayed as ▼ Link to Part Lists under the model name.



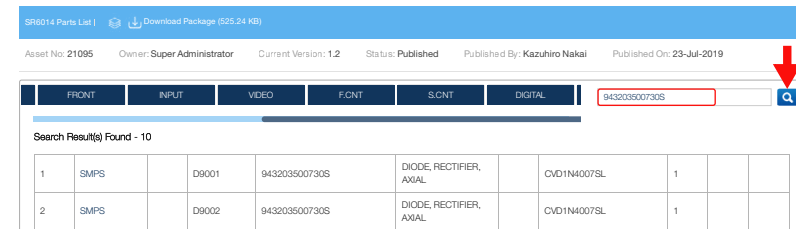
NOTE: If the ▼ Link to Parts List section is not displayed, download the parts table from the Asset list.

Searching Part Numbers or Ref. Numbers

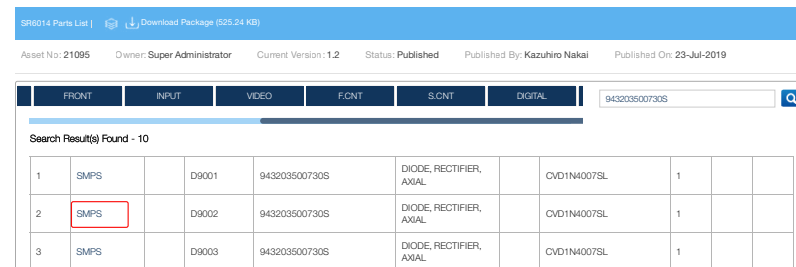
You can search a Parts List for part numbers or Ref. numbers.

- (1) Enter the part number or Ref. number in the search window of the Parts List, and press the search button.
- (2) The search results are displayed.

The name of the sheet in which the search part is used and the part's line are displayed.



- (3) Next, click the "Sheet" section of the search results.



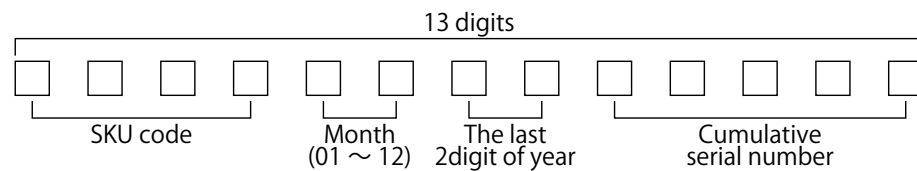
NOTE FOR PARTS LIST

- Parts indicated by "nsp" on this table cannot be supplied.
 - When ordering a part, make a clear distinction between "1" and "I" (i) to avoid mis-supplying.
 - A part ordered without specifying its part number can not be supplied.
 - Part indicated by "@" mark is not illustrated in the exploded and packaging view.
- WARNING:** Parts indicated by the ⚠ mark have critical characteristics. Use ONLY replacement parts recommended by the manufacturer.

SERIAL NUMBER

Serial Number Organization

The 13-digit serial number that contains the code of the manufacturing date.



SKU Code of this Unit

Product SKU	SKU Code
SR5015/U1B	MBCB
SR5015/N1B	MBCC
SR5015/N1SG	MBCF
SR5015DAB/N1B	MBCG
SR5015DAB/N1SG	MBCH
SR5015/K1B	MBCD

Sound mode table

Sound modes and channel output

- This indicates the audio output channels or surround parameters that can be set.
- ⦿ This indicates the audio output channels. The output channels depend on the settings of “Speaker Config.”.

Sound mode	Channel output									
	Front L/R	Center	Surround L/R	Surround Back L/R	Front Height L/R	Top Front L/R	Top Middle L/R	Front Dolby Atmos Enabled L/R	Surround Dolby Atmos Enabled L/R	Subwoofer
Direct/Pure Direct (2-channel)	○									⦿※ 5
Direct/Pure Direct (Multi-channel)	○	⦿	⦿	⦿※ 6	⦿※ 6	⦿※ 6	⦿※ 6	⦿※ 6	⦿※ 6	⦿
Stereo	○									⦿
Dolby Atmos	○	⦿	⦿	⦿	⦿	⦿	⦿	⦿	⦿	⦿
Dolby TrueHD	○	⦿	⦿	⦿※ 6						⦿
Dolby Digital Plus	○	⦿	⦿	⦿※ 6						⦿
Dolby Digital	○	⦿	⦿							⦿
Dolby Surround ※ 1	○	⦿	⦿	⦿※ 7	⦿	⦿	⦿	⦿	⦿	⦿
DTS:X ※ 2	○	⦿	⦿	⦿	⦿	⦿	⦿	⦿	⦿	⦿
DTS-HD	○	⦿	⦿	⦿※ 6						⦿
DTS Express	○	⦿	⦿	⦿						⦿
DTS 96/24	○	⦿	⦿	⦿						⦿
DTS Surround	○	⦿	⦿	⦿						⦿
DTS Neural:X ※ 3	○	⦿	⦿	⦿	⦿	⦿	⦿	⦿	⦿	⦿
DTS Virtual:X ※ 4	○	⦿	⦿	⦿						⦿
Multi Ch In	○	⦿	⦿	⦿※ 6						⦿
Multi Ch Stereo	○	⦿	⦿	⦿	⦿	⦿	⦿	⦿	⦿	⦿
Virtual	○									⦿

※ 1 The applicable sound mode includes “Dolby Surround” and sound modes that have “+Dolby Surround” in the sound mode name.

※ 3 The applicable sound mode includes “DTS Neural:X” and sound modes that have “+Neural:X” in the sound mode name.

※ 4 The applicable sound mode includes “DTS Virtual:X” and sound modes that have “+Virtual:X” in the sound mode name.

※ 5 Audio is output when “Subwoofer Mode” in the menu is set to “LFE+Main”.

※ 6 A signal for each channel contained in an input signal is output as audio.

※ 7 Audio is not output when the “Speaker Virtualizer” in the menu is set to “On” and “Speaker Config.” - “Surr. Back” in the menu is set to “1 spkr”.

Sound modes and surround parameters

Sound mode	Surround Parameter								Tone ※ 9	Center Level Adjust ※ 10	Subwoofer Level Adjust ※ 11	Audyssey			M-DAX ※ 16
	Cinema EQ	Loudness Manage- ment ※ 2	Dynamic Compres- sion ※ 3	Dialog Control ※ 4	Low Frequency Effects ※ 5	Speaker Virtualizer ※ 7	DTS Neural:X	Subwoofer				MultEQ® XT ※ 12 ※ 13 ※ 15	Dynamic EQ ※ 14 ※ 15	Dynamic Volume ※ 14 ※ 15	
Direct/Pure Direct (2-channel) ※ 1		○	○					○※ 18			○※ 18				
Direct/Pure Direct (Multi-channel) ※ 1		○	○	○	○					○	○				
Stereo		○	○	○	○			○※ 19	○		○※ 19	○	○	○	○
Dolby Atmos	○	○	○		○	○			○	○	○	○	○	○	○
Dolby TrueHD	○	○	○		○				○	○	○	○	○	○	○
Dolby Digital Plus	○	○	○		○				○	○	○	○	○	○	○
Dolby Digital	○	○	○		○				○	○	○	○	○	○	○
Dolby Surround	○	○	○			○			○	○	○	○	○	○	○
DTS:X	○		○	○	○		○		○	○	○	○	○	○	○
DTS-HD	○		○						○	○	○	○	○	○	○
DTS Express	○				○				○	○	○	○	○	○	○
DTS 96/24	○				○				○	○	○	○	○	○	○
DTS Surround	○		○		○				○	○	○	○	○	○	○
DTS Neural:X	○	○	○						○	○	○	○	○	○	○
DTS Virtual:X	○		○						○	○	○				○
Multi Ch In	○				○				○	○	○	○	○	○	○
Multi Ch Stereo	○	○	○	○	○				○	○	○	○	○	○	○
Virtual		○	○	○	○				○		○	○	○	○	○

※ 1 During playback in Pure Direct mode, the surround parameters are the same as in Direct mode.

※ 2 This item can be selected when a Dolby Digital, Dolby Digital Plus, Dolby TrueHD or Dolby Atmos signal is played.

※ 3 This item can be selected when a Dolby Digital, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos, DTS:X or DTS signal is played.

※ 4 This item can be selected when a DTS:X signal that is compatible with the Dialog Control function is input.

※ 5 This item can be selected when a Dolby Digital or DTS signal or DVD-Audio is played.

※ 7 This item can be set when any Height, Ceiling or Dolby Atmos Enabled speakers are not used, or Surround speakers are not used.

※ 9 This item cannot be set when "Dynamic EQ" is set to "On".

※ 10 This item cannot be set when "Center" is set to "None".

※ 11 This item cannot be set when "Subwoofer" in the menu is set to "None".

※ 12 This item cannot be set when Audyssey® Setup (Speaker Calibration) has not been performed.

※ 13 This item cannot be selected when a DTS:X format with a sampling frequency of over 48 kHz is input.

※ 14 This item cannot be set when "MultEQ® XT" in the menu is set to "Off".

※ 15 This item cannot be set when sound mode is "DTS Virtual:X" or sound mode that have "+Virtual:X" in the sound mode name.

※ 16 This item can be set when the input signal is analog, PCM 48 kHz or 44.1 kHz.

※ 18 This setting is available when "Subwoofer Mode" in the menu is set to "LFE+Main".

※ 19 This item can be set when "Front" is set to "Small" or "Subwoofer Mode" is set to "LFE+Main".

Types of input signals, and corresponding sound modes

● This indicates the default sound mode. ○ This indicates the selectable sound mode.

Sound mode	NOTE	2-channel signal							Multi-channel signal										
		Dolby TrueHD	Dolby Digital Plus	Dolby Digital (EX)	DTS-HD	DTS Express	DTS	Analog / PCM	Dolby Atmos	Dolby TrueHD	Dolby Digital Plus	Dolby Digital (EX)	DTS:X	DTS-HD	DTS Express	DTS ES Dscrt6.1	DTS ES Mtrx6.1	DTS	PCM multi-channel
Direct																			
Direct		○	○	○	○	○	○	○※ 2	○	○	○	○	○	○	○	○	○	○	○
Pure Direct																			
Pure Direct		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Stereo		○	○	○	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○
Dolby Surround																			
Dolby Atmos	※ 1								●										
Dolby TrueHD		○							○※ 3	○									
Dolby Digital Plus			○						○※ 5		○								
Dolby Digital				○								○							
Dolby (D+) (HD) + Dolby Surround										●	●	●							
Dolby (D+) (HD) + Neural:X									○	○	○	○							
Dolby Surround		●	●	●	○	○	○	○											
DTS Surround																			
DTS:X MSTR / DTS:X													●						
DTS-HD MSTR					○※ 13									○※ 13					
DTS-HD HI RES					○※ 15									○※ 15					
DTS Express						○									○				
DTS ES Dscrt 6.1	※ 6															○			
DTS ES Mtrx 6.1	※ 6																○		
DTS 96/24							○※ 16											○※ 16	
DTS Surround							○									○	○	○	
DTS (-HD) + Dolby Surround														○	○	○	○	○	
DTS (-HD) + Neural:X														●※ 7	●※ 7	●※ 7	●※ 7	●※ 7	
DTS (-HD) / DTS:X + Virtual:X													○※ 8	○	○	○	○	○	
DTS Neural:X		○	○	○	●※ 7	●※ 7	●※ 7	○											
DTS Virtual:X					○	○	○	○											
Multi Ch In																			
Multi Ch In																			●
Multi Ch In 7.1	※ 6																		○※ 19
Multi In + Dolby Surround																			○
Multi In + Neural:X																			○
Multi In + Virtual:X																			○
Original sound mode																			
Multi Ch Stereo		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Virtual		○	○	○	○	○	○	○	○※ 20	○	○	○	○	○	○	○	○	○	○

※ 1 This item can be selected when using any of the Surround Back, Front Height, Top Front, Top Middle, Front Dolby or Surround Dolby speaker. It can also be selected when the "Speaker Virtualizer" setting is turned "On".

※ 2 The default sound mode for the AirPlay playback is "Direct".

※ 3 This can be selected when the Dolby Atmos signal contains the Dolby TrueHD signal.

※ 5 This can be selected when the Dolby Atmos signal contains the Dolby Digital Plus signal.

※ 6 This item can be selected when surround back speakers are used.

※ 7 This item cannot be selected when a DTS(-HD) format with a sampling frequency of over 48 kHz is input.

※ 8 This item cannot be selected when a DTS:X format with a sampling frequency of over 48 kHz is input.

※ 13 This item can be selected when the input signal is DTS-HD Master Audio.

※ 15 This item can be selected when the input signal is DTS-HD Hi Resolution.

※ 16 This item can be selected when the input signal is DTS 96/24.

※ 19 This item can be selected when the input signals contain surround back signals.

※ 20 This can be selected when the Dolby Atmos signal contains the Dolby TrueHD or Dolby Digital Plus signal.

POST-SERVICE PRECAUTIONS

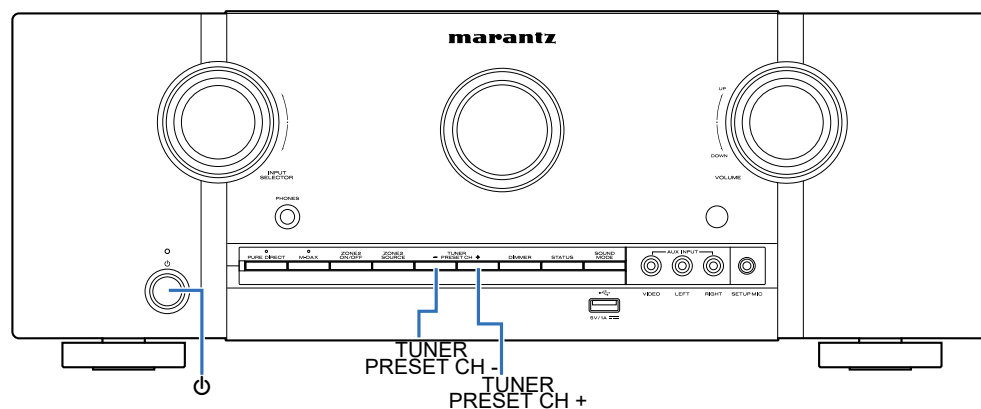
Initializing this Unit

Make sure to initialize this unit after replacing the microcomputer or any peripheral equipment, or the digital PCB.

1. Press the power button to turn off the power.
2. While holding down buttons "**TUNER PRESET CH -**" and "**TUNER PRESET CH +**" simultaneously, press the power button to turn on the power.
3. Release the buttons after confirming that the display flashes at 1-second intervals.
 - * The unit is initialized.Use network initialization mode to initialize the network related settings.

NOTE :

- If the unit fails to enter the service mode in step 3, repeat the procedure from step 1.
- Initializing the device restores the customized settings to the factory settings. Write down your settings in advance and reconfigure the settings after initialization.



JIG FOR SERVICING

Use the following jigs (extension cable kit) when repairing the PCBs.
Order with your dealer for the jigs your dealer if necessary.

8U-110084S : EXTENSION UNIT KIT : 1 Set
8U-110136S : EXTENSION UNIT KIT : 1 Set
900639103810S : JIG 29P EXTENSION CABLE : 2 Set
943639104310S : 5P EXTENSION CABLE : 1 Set
(See [JIG FOR SERVICING](#))

回路図

SCH01 DIG DIGITAL CONNECT

SCH02 DIG CPU LEVEL CHG

SCH03 DIG CPU

SCH04 DIG SUPPLY

SCH05 DIG DIR

SCH06 DIG AUDIO PLD

SCH07 DIG DSP

SCH08 DIG MAIN DAC

SCH09 DIG LEGO

SCH10 DIG HDMI RX

SCH11 DIG ADV8003

SCH12 DIG HDMI TX

SCH13 DIG ADV7180 (SR5015 Only)

SCH14 DIG VIDEO PLD (SR5015 Only)

SCH15 AUDIO AUDIO1

SCH16 AUDIO AUDIO2

SCH17 VIDEO VIDEO

SCH18 VIDEO FRONT CNT

SCH19 VIDEO RS232C & RC-5

SCH20 VIDEO DAB & USB

SCH21 AMP AMP1

SCH22 AMP AMP2

SCH23 AMP OPTION TABLE

SCH24 SPK SPEAKER

SCH25 SPK TUNER & REG

SCH26 INPUT

SCH27 FRONT

SCH28 SMPS

SCH29 HDAM

PRINTED CIRCUIT BOARDS

DIGITAL

AUDIO, VIDEO, FRONT CNT, USB, DAB

AMP

SPEAKER

FRONT, INPUT, T-CNT, F-HEADPHONE

SMPS, HDAM

LEVEL DIAGRAM

FRONT ch

CENTER, SURROUND, SURR.BCK ch

SUBWOOFER ch

ZONE2 ch (w/ Source)

ZONE2 ch (w/o Source)

BLOCK DIAGRAM

ANALOG AUDIO DIAGRAM

DIGITAL AUDIO DIAGRAM

VIDEO DIAGRAM

POWER DIAGRAM

WIRING DIAGRAM

SEMICONDUCTORS

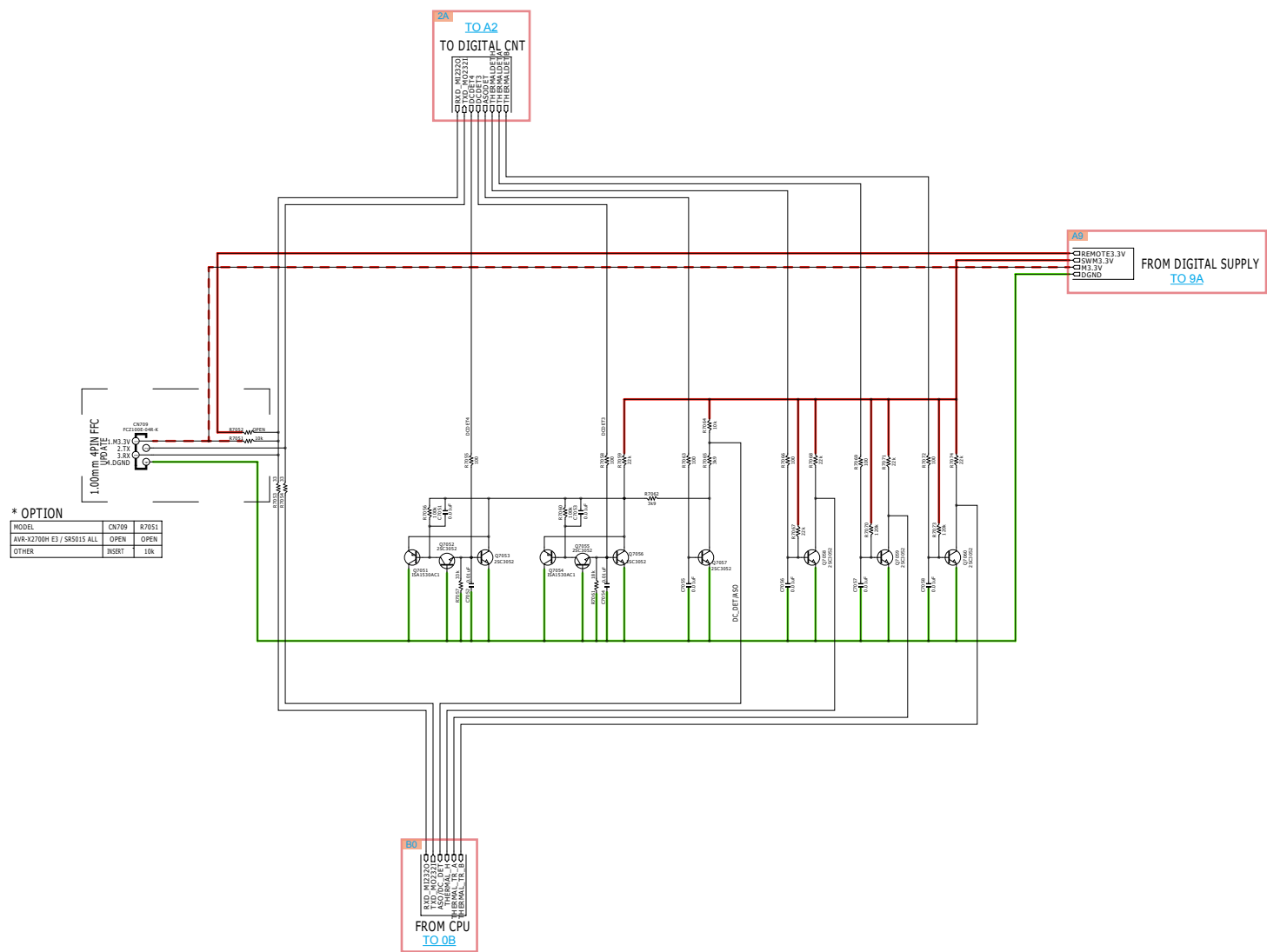
1. IC's

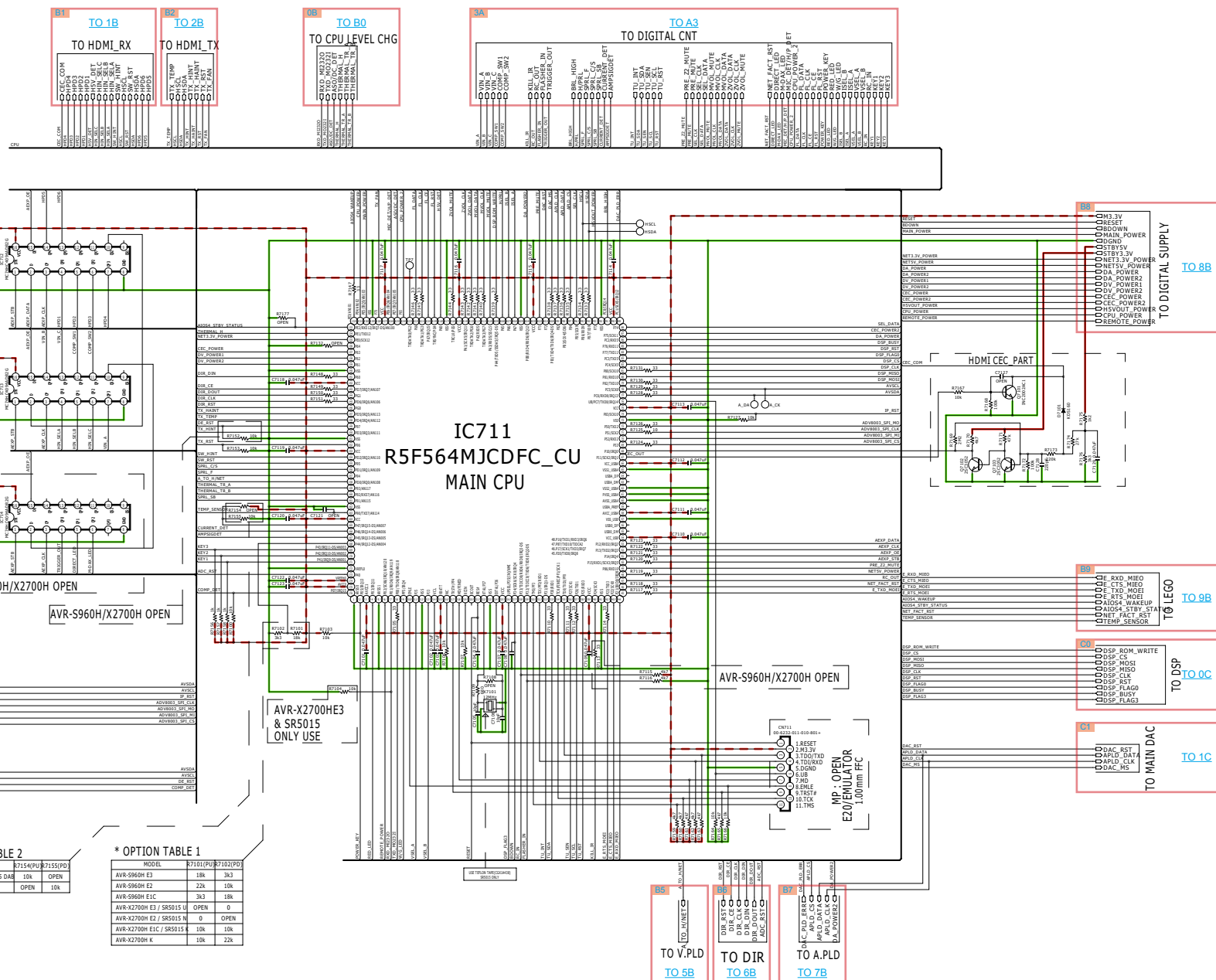
2. FL DISPLAY

3. Remote Code Table



CPU LEVEL CHG



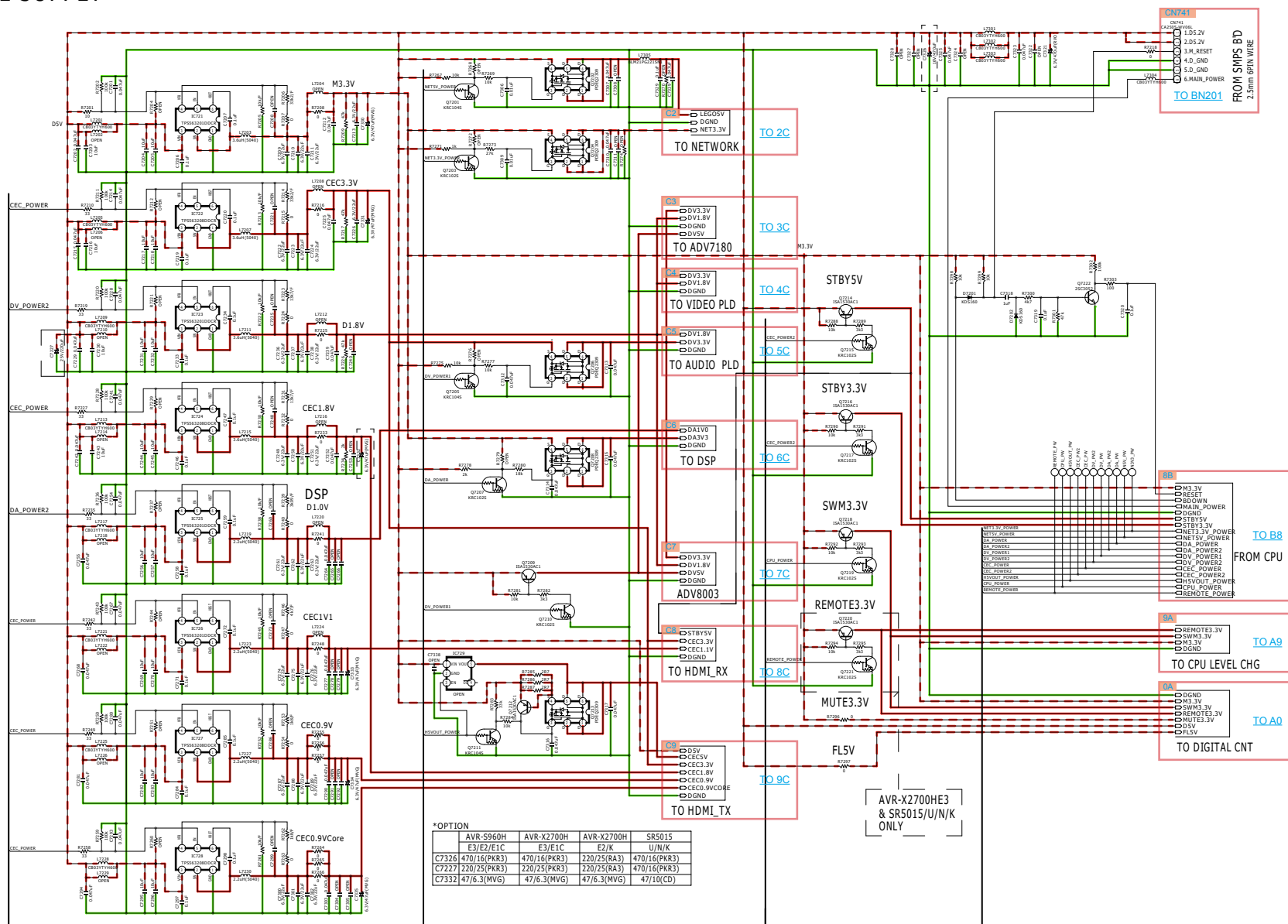


MODEL	R7154(PU)	R7155(PD)
AVR-X2700HDAB / SR5015 DAB	10k	OPEN
OTHER	OPEN	10k

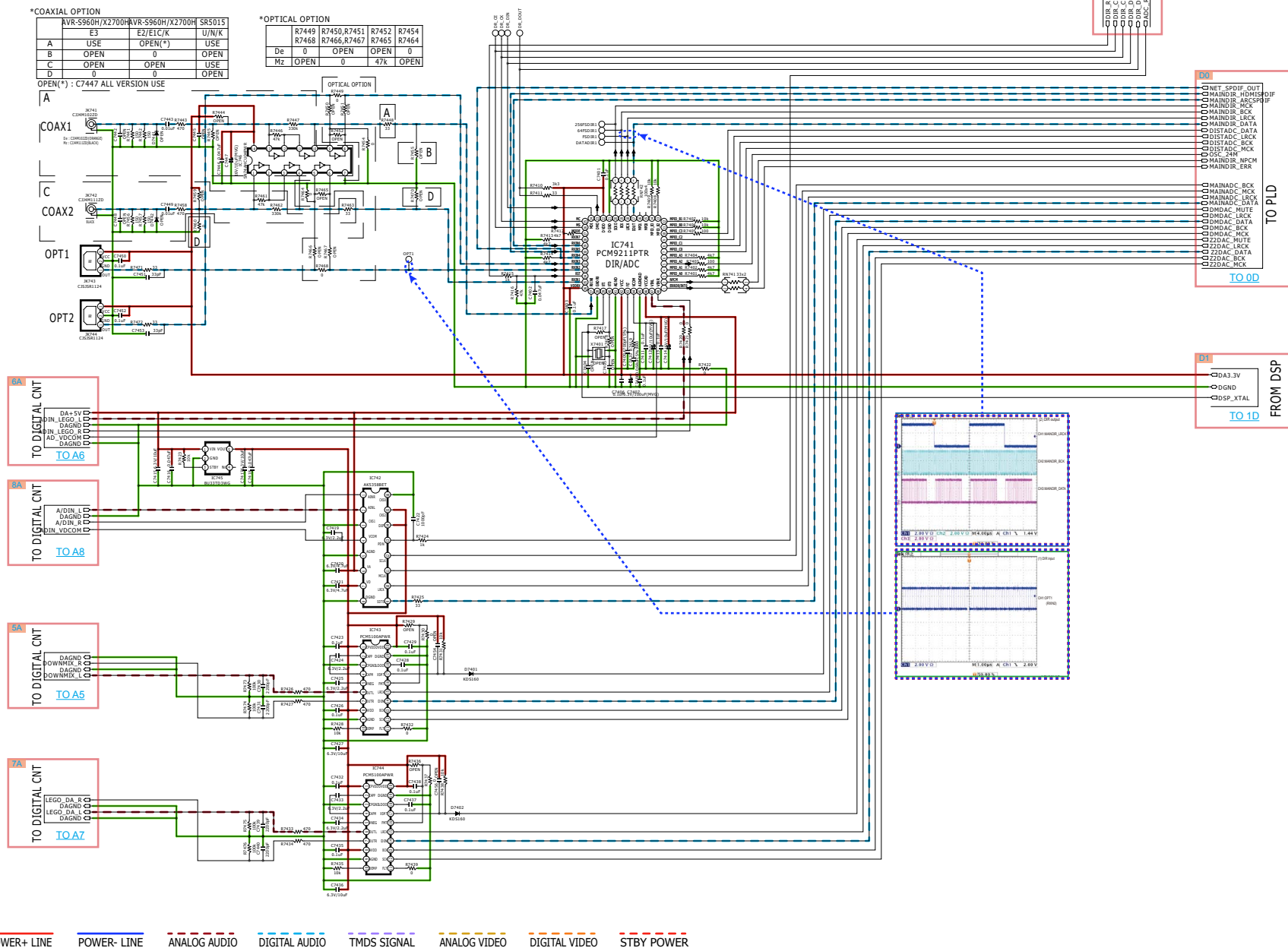
MODEL	R7101(PU)	R7102(PD)
AVR-S960H E3	18k	3k3
AVR-S960H E2	22k	10k
AVR-S960H E1C	3k3	18k
AVR-X2700H E3 / SR5015 U	OPEN	0
AVR-X2700H E2 / SR5015 N	0	OPEN
AVR-X2700H E1C / SR5015 K	10k	10k
AVR-X2700H K	10k	22k

GND LINE POWER+ LINE POWER- LINE ANALOG AUDIO DIGITAL AUDIO TMD5 SIGNAL ANALOG VIDEO DIGITAL VIDEO STBY POWER

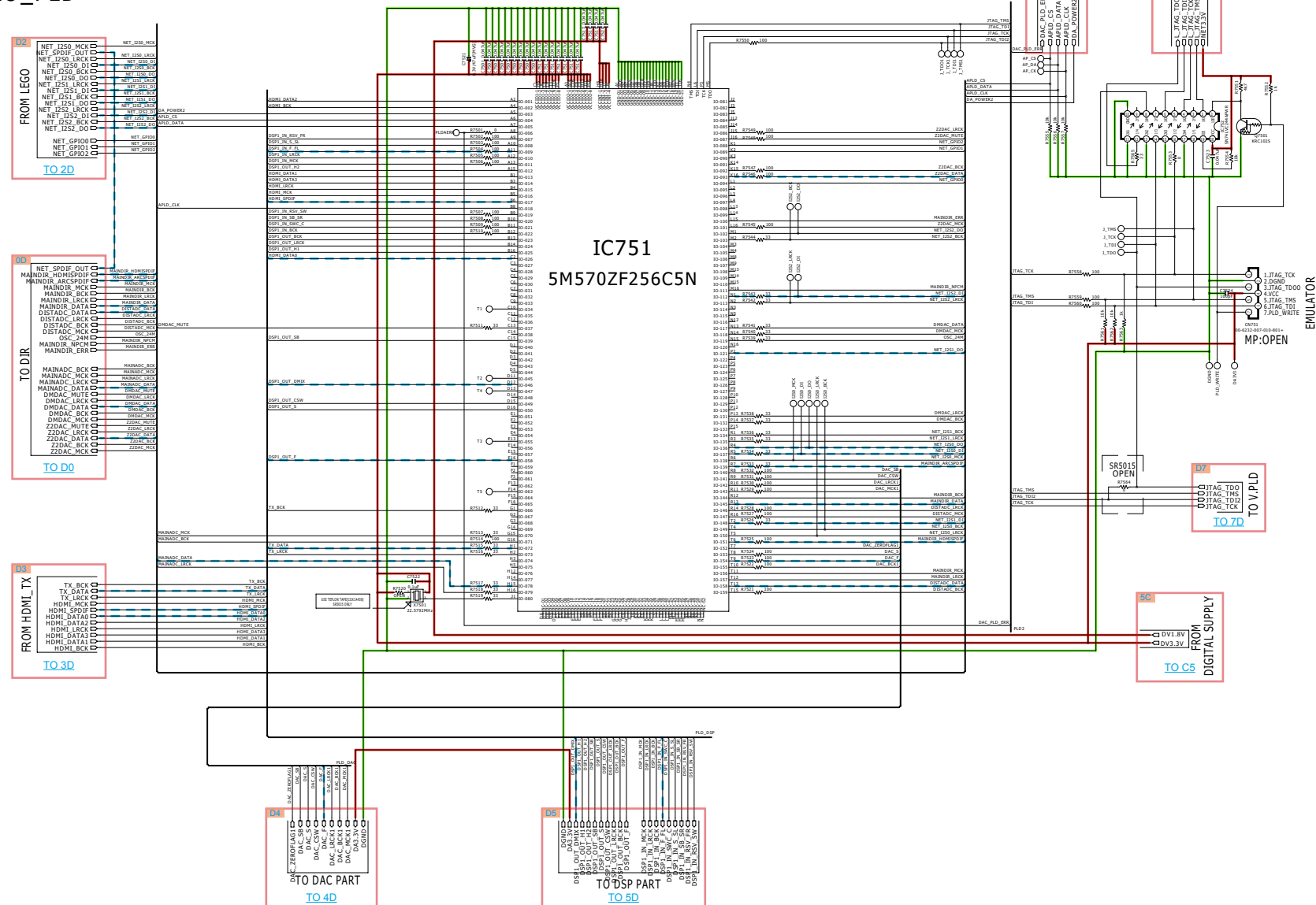
DIGITAL SUPPLY



DIR PART

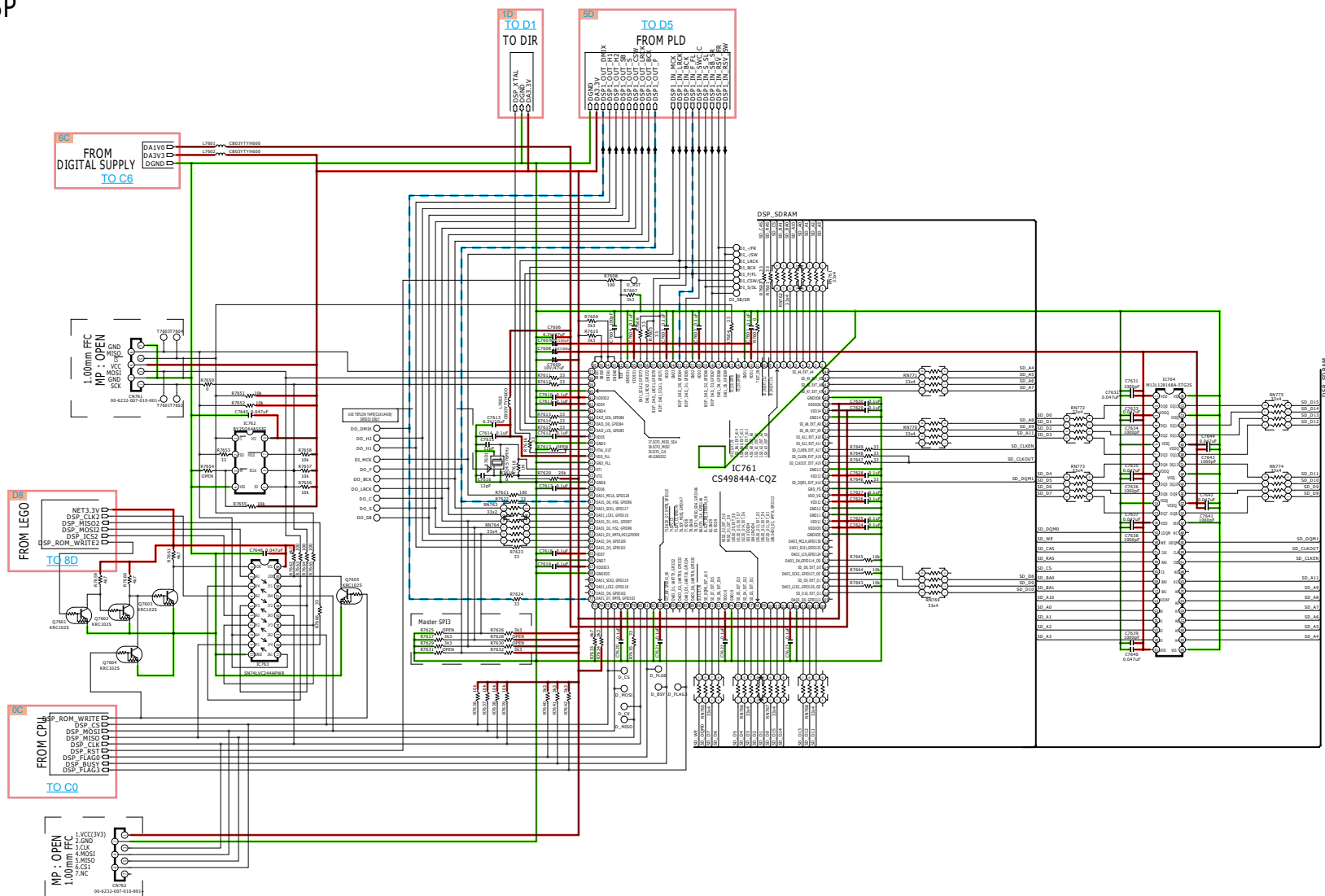


AUDIO_PLD



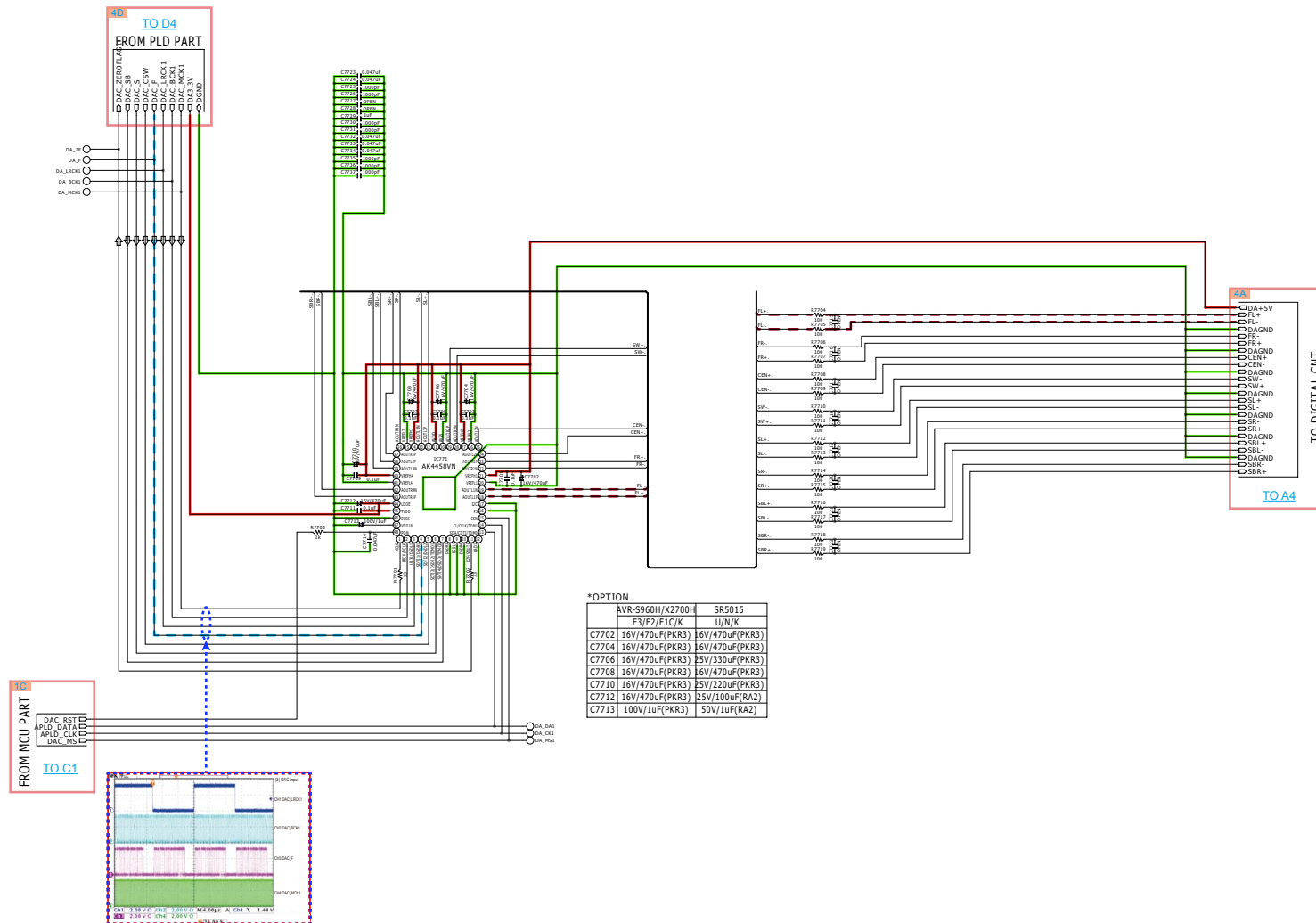
GND LINE POWER+ LINE POWER- LINE ANALOG AUDIO DIGITAL AUDIO TMDS SIGNAL ANALOG VIDEO DIGITAL VIDEO STBY POWER

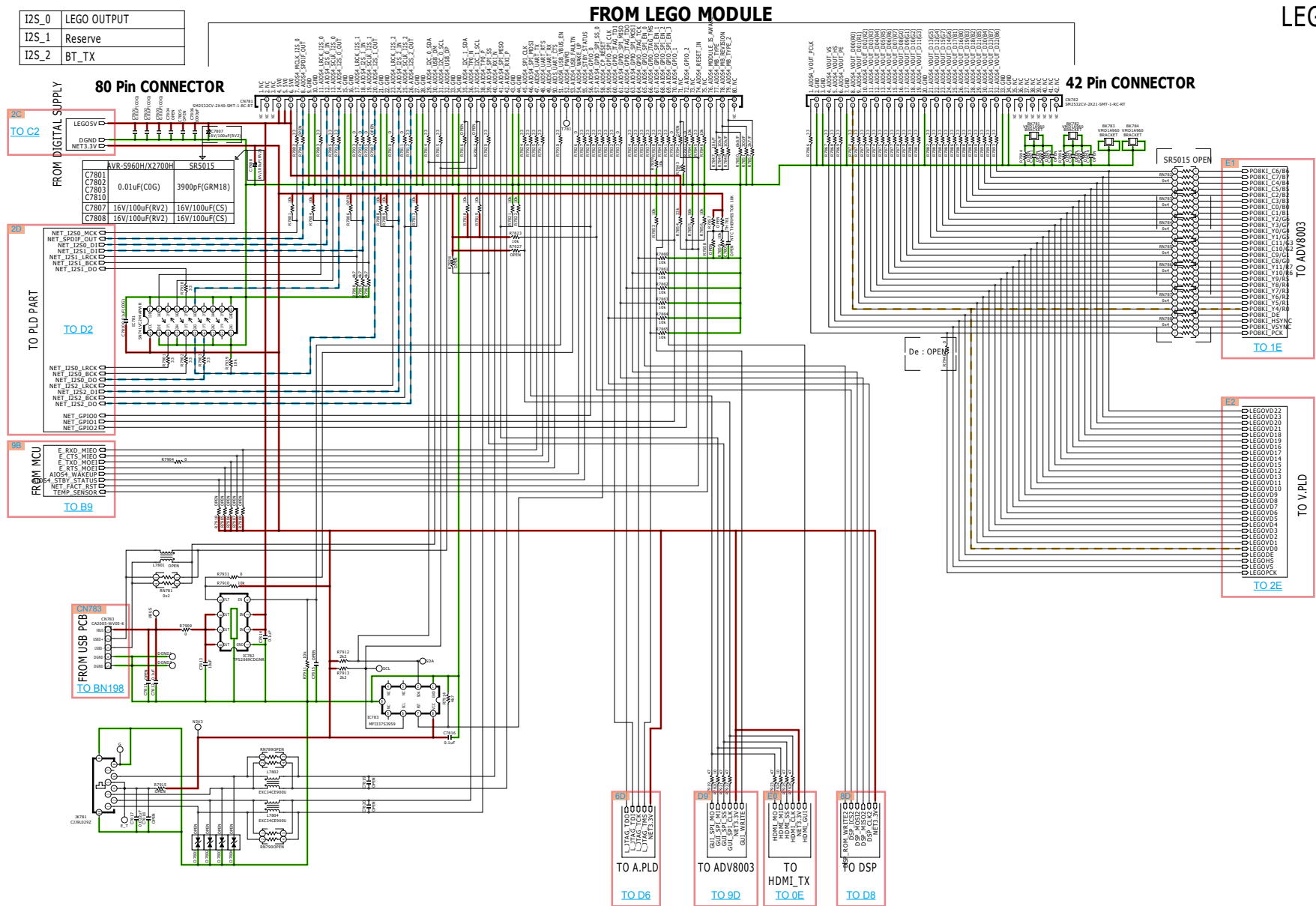
DSP



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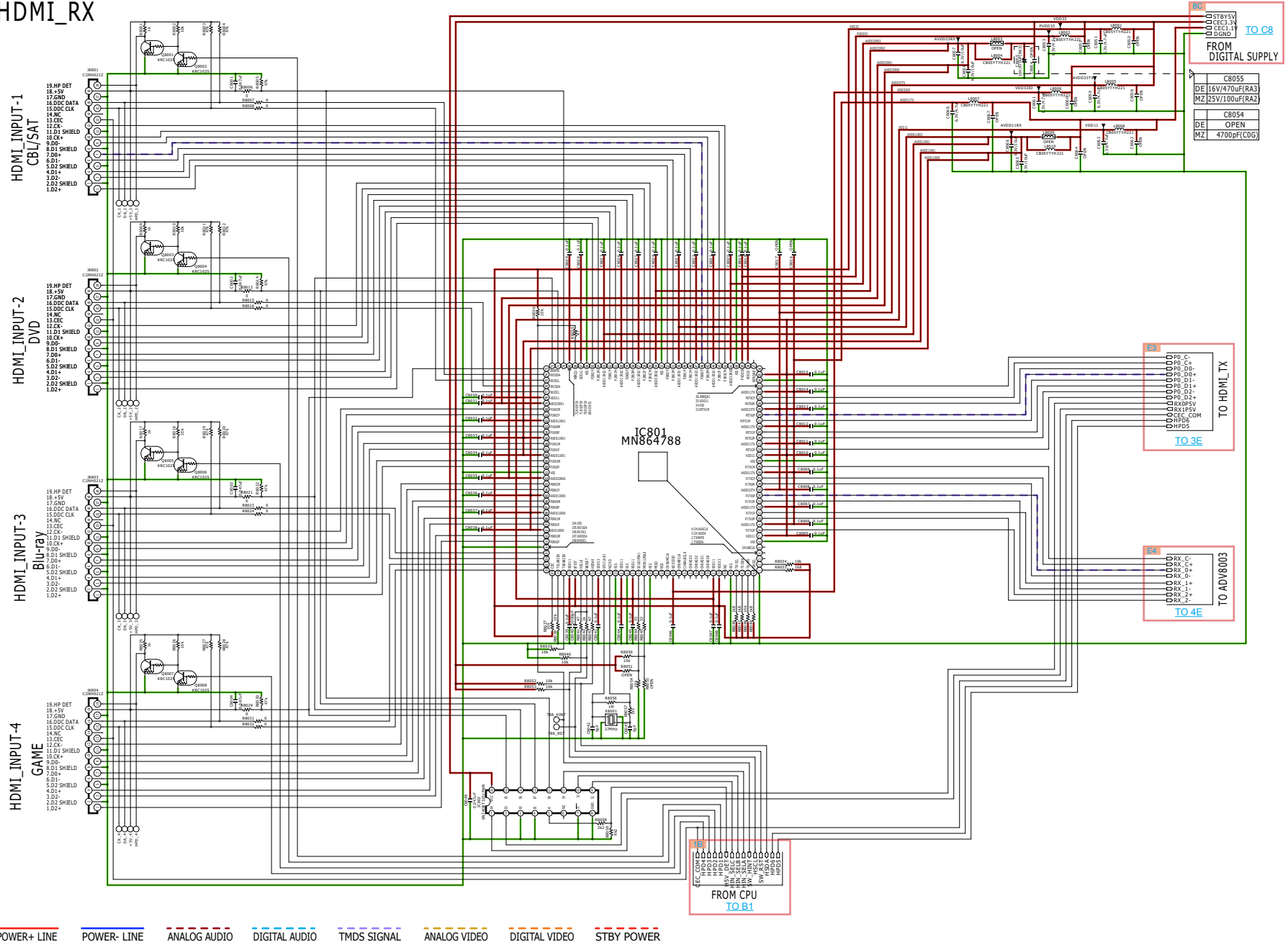
MAIN DAC



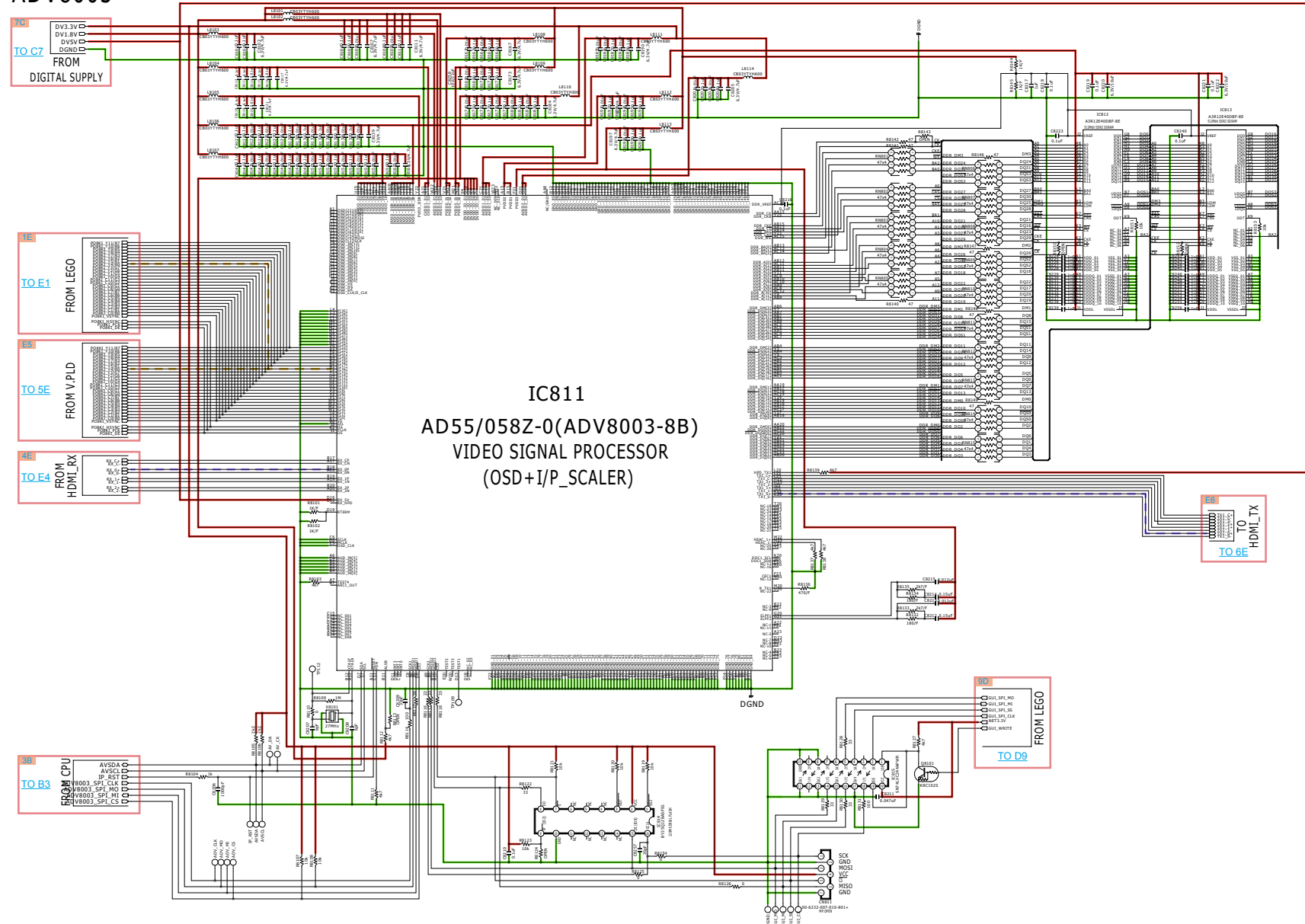


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HDMI_RX



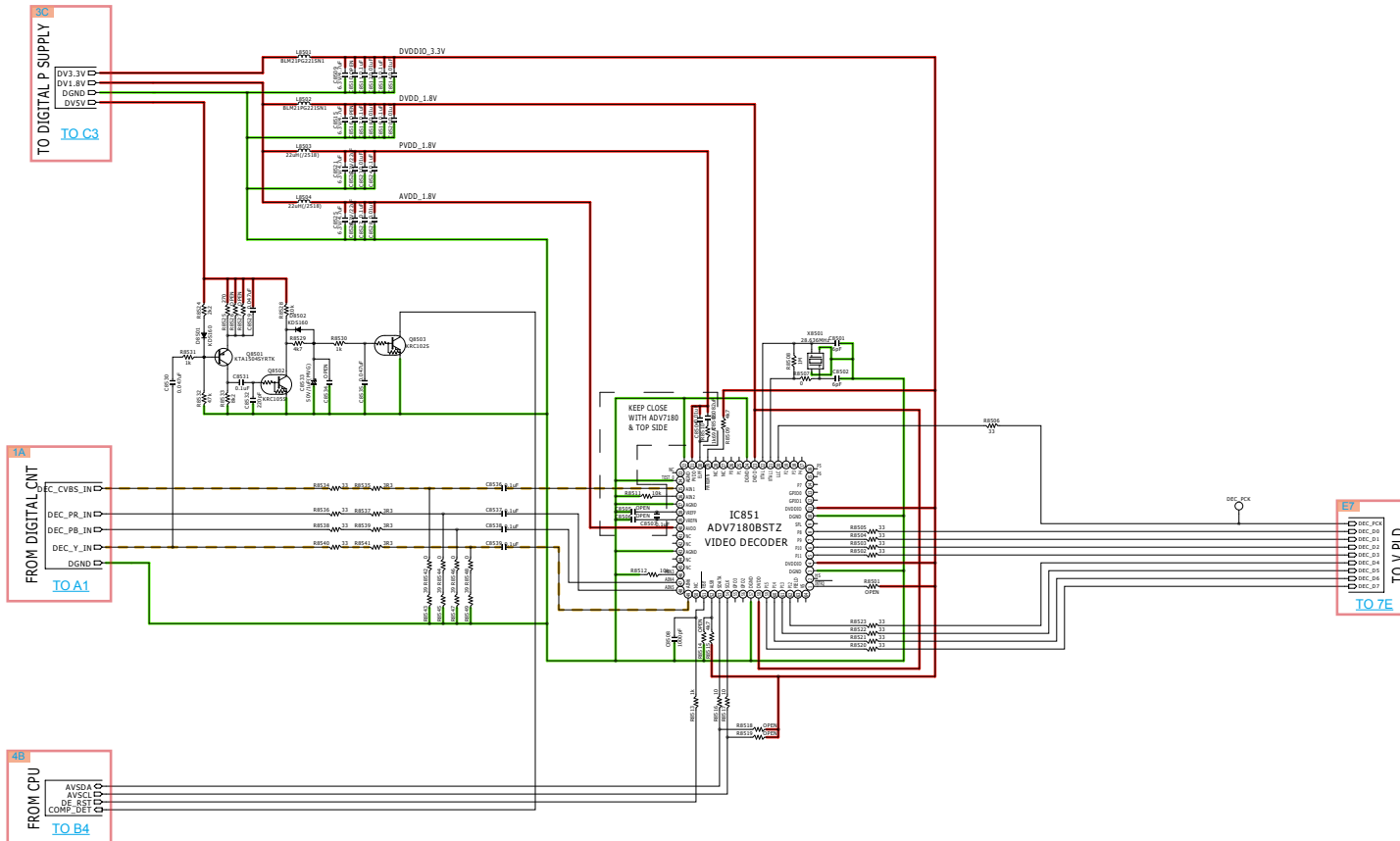
ADV8003



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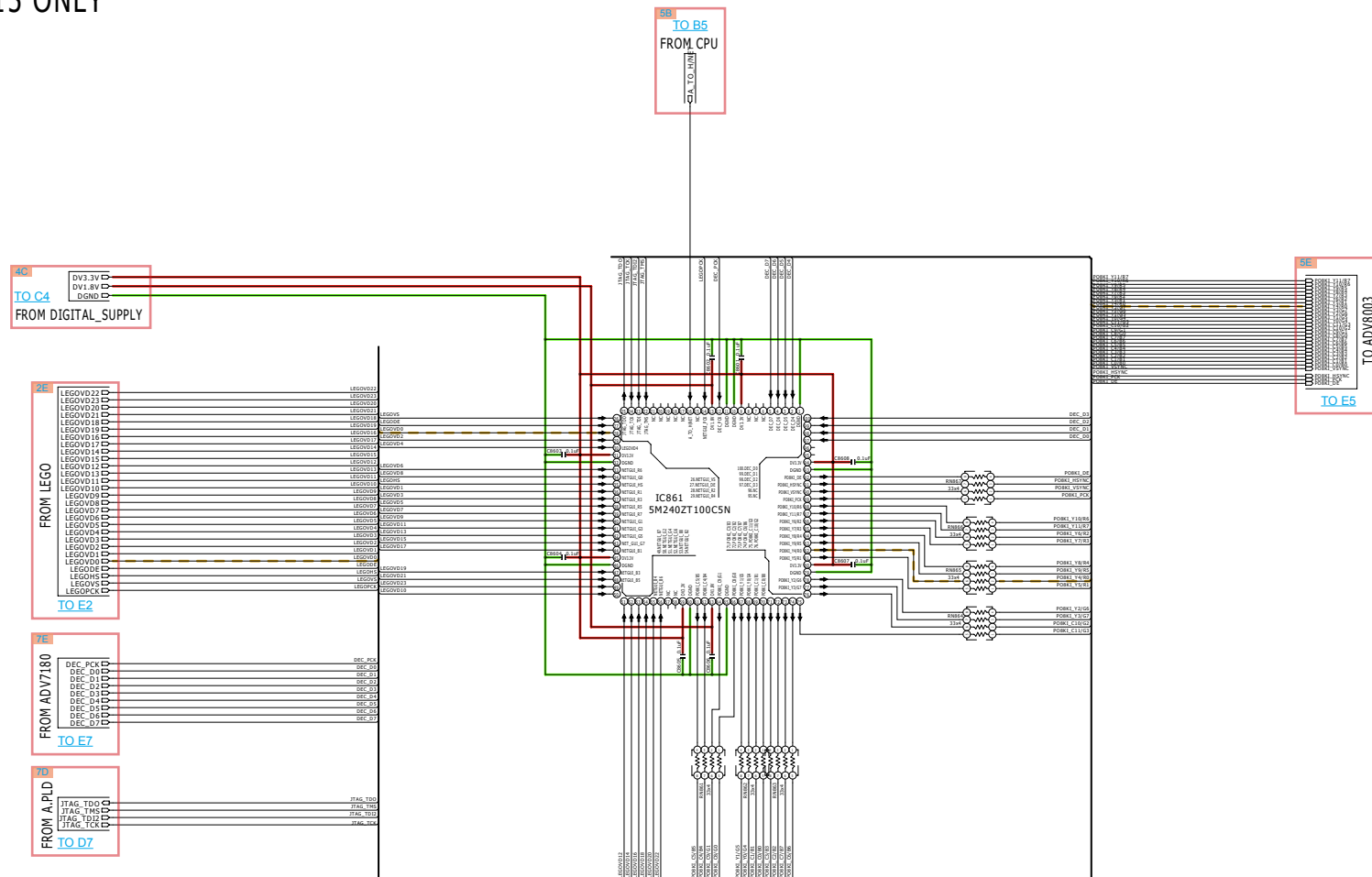
ADV7180
SR5015 ONLY



GND LINE POWER+ LINE POWER- LINE ANALOG AUDIO DIGITAL AUDIO TMD5 SIGNAL ANALOG VIDEO DIGITAL VIDEO STBY POWER

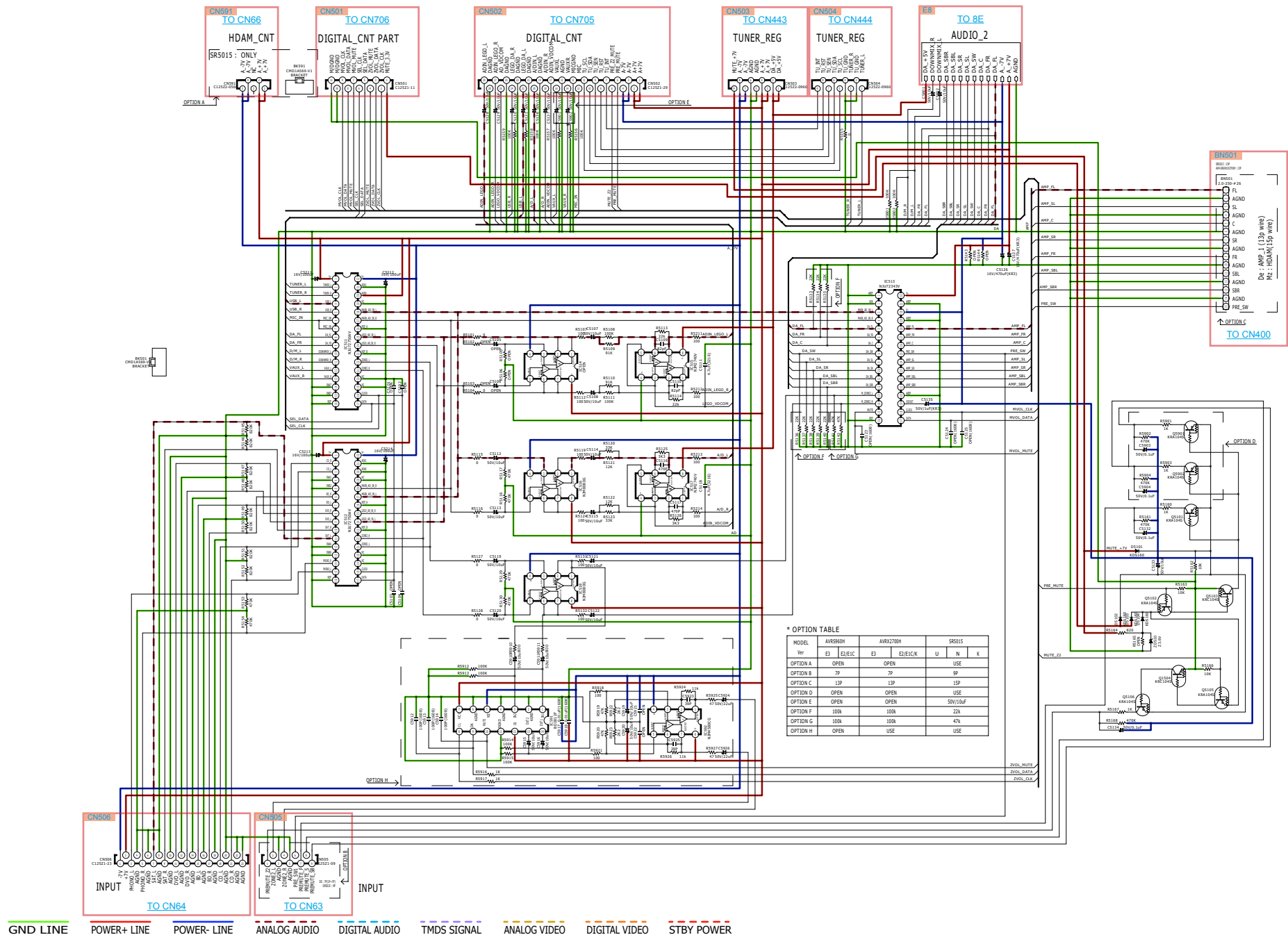
SCH14 DIG VIDEO PLD (SR5015 Only)

VIDEO_PLD
SR5015 ONLY



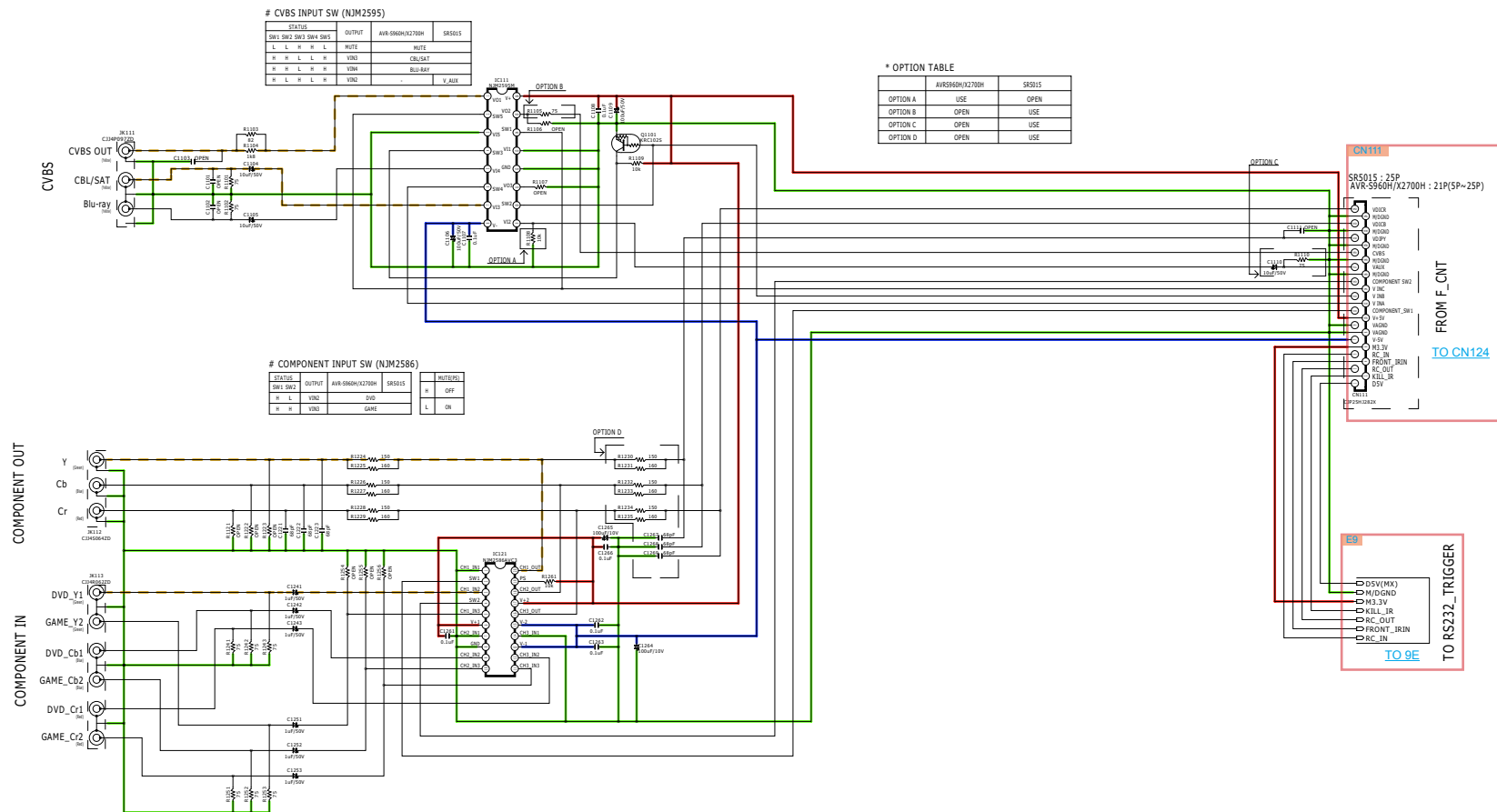
GND LINE POWER+ LINE POWER- LINE ANALOG AUDIO DIGITAL AUDIO TMD5 SIGNAL ANALOG VIDEO DIGITAL VIDEO STBY POWER

SCH15 AUDIO AUDIO1



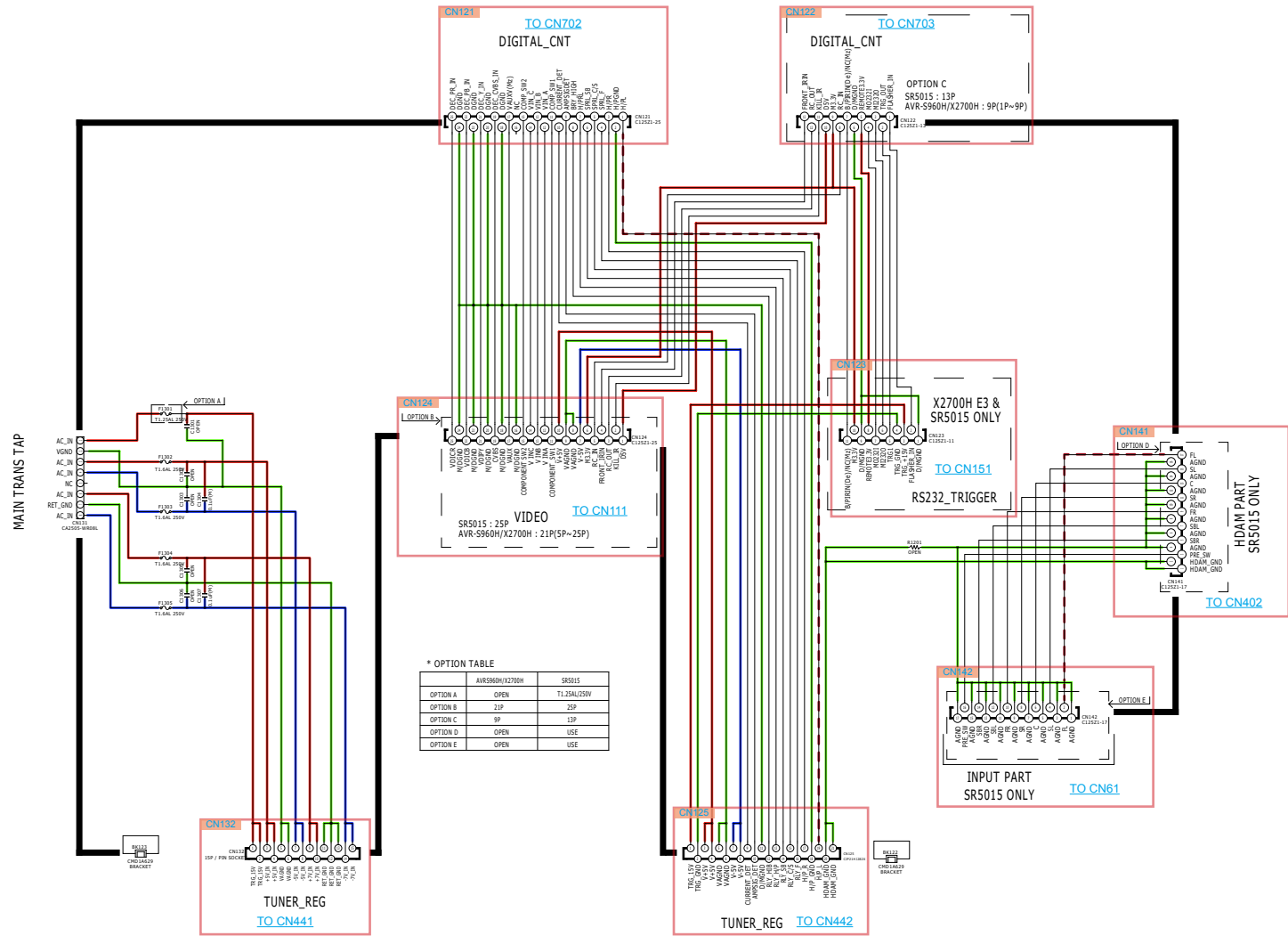


VDIEO

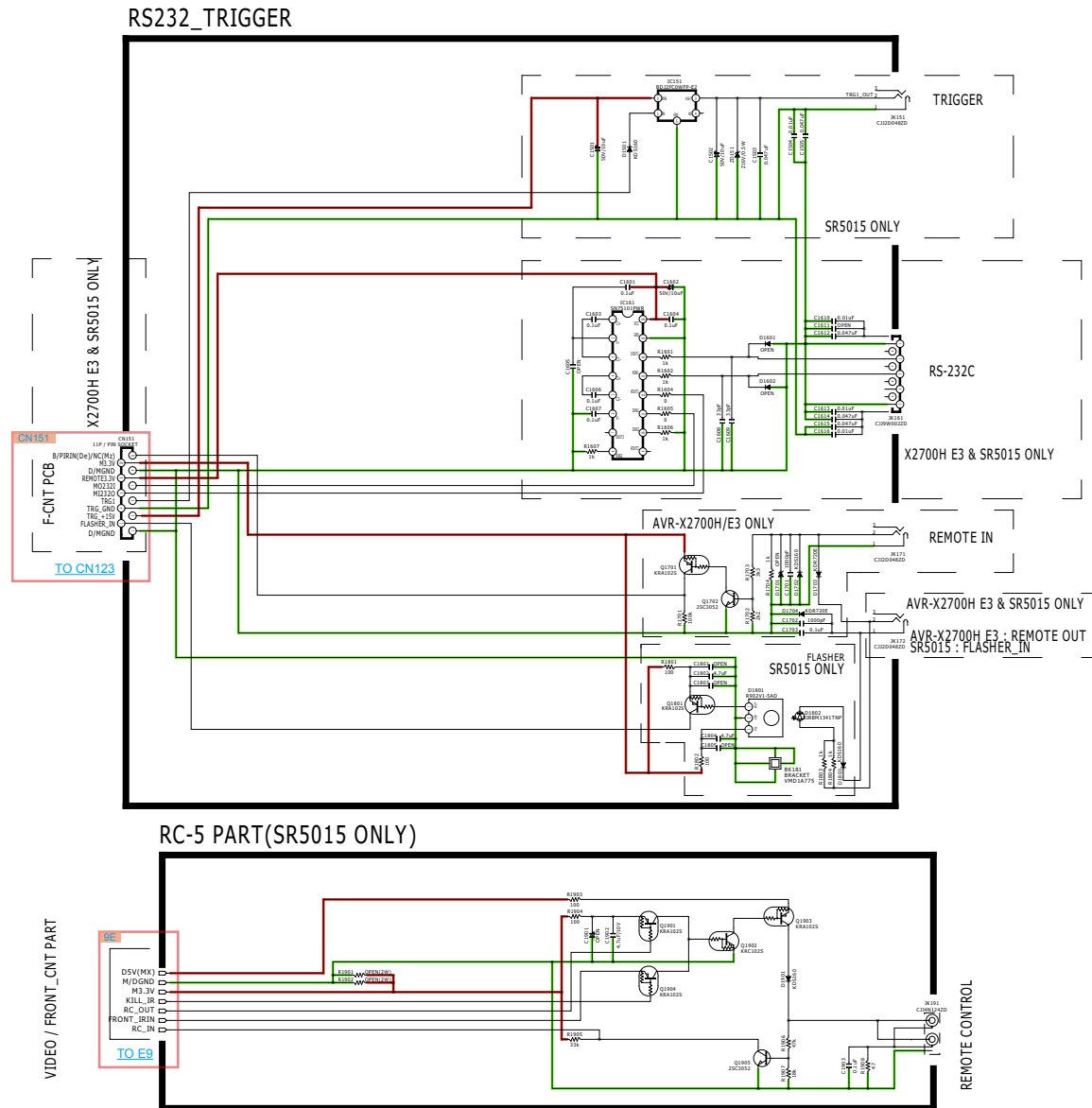


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F_CNT

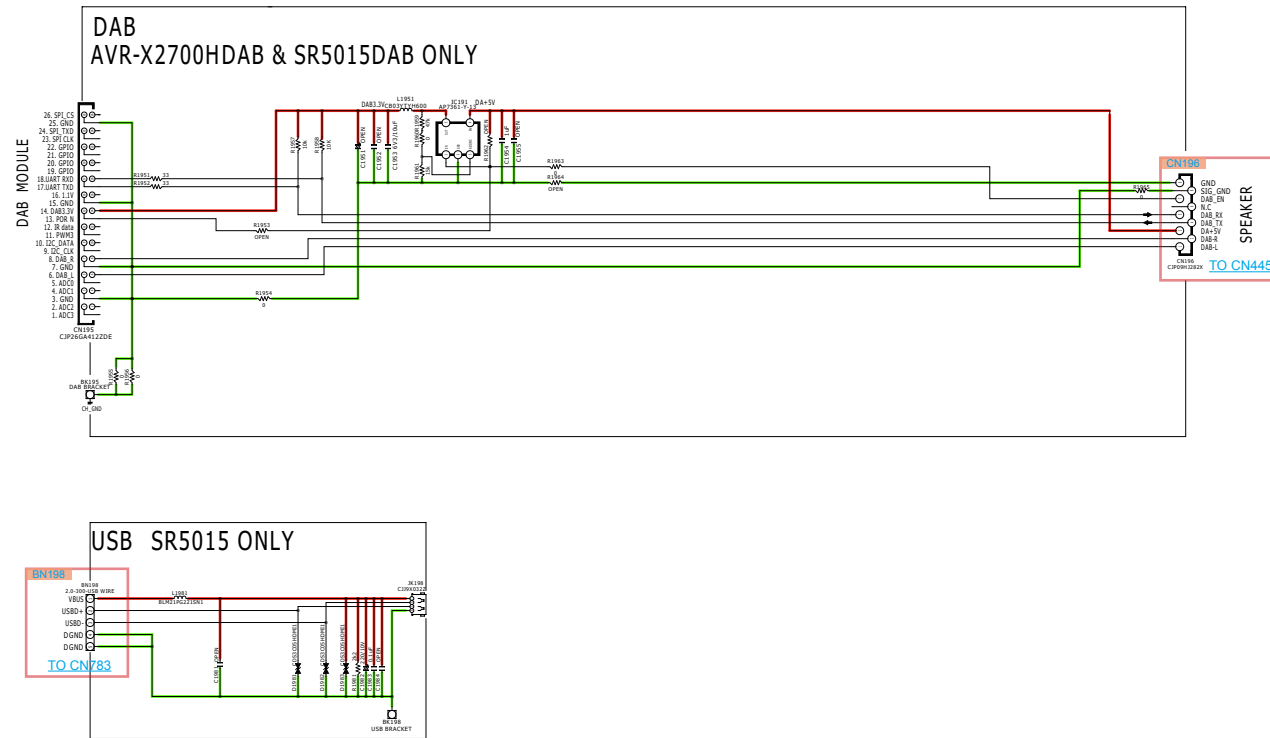


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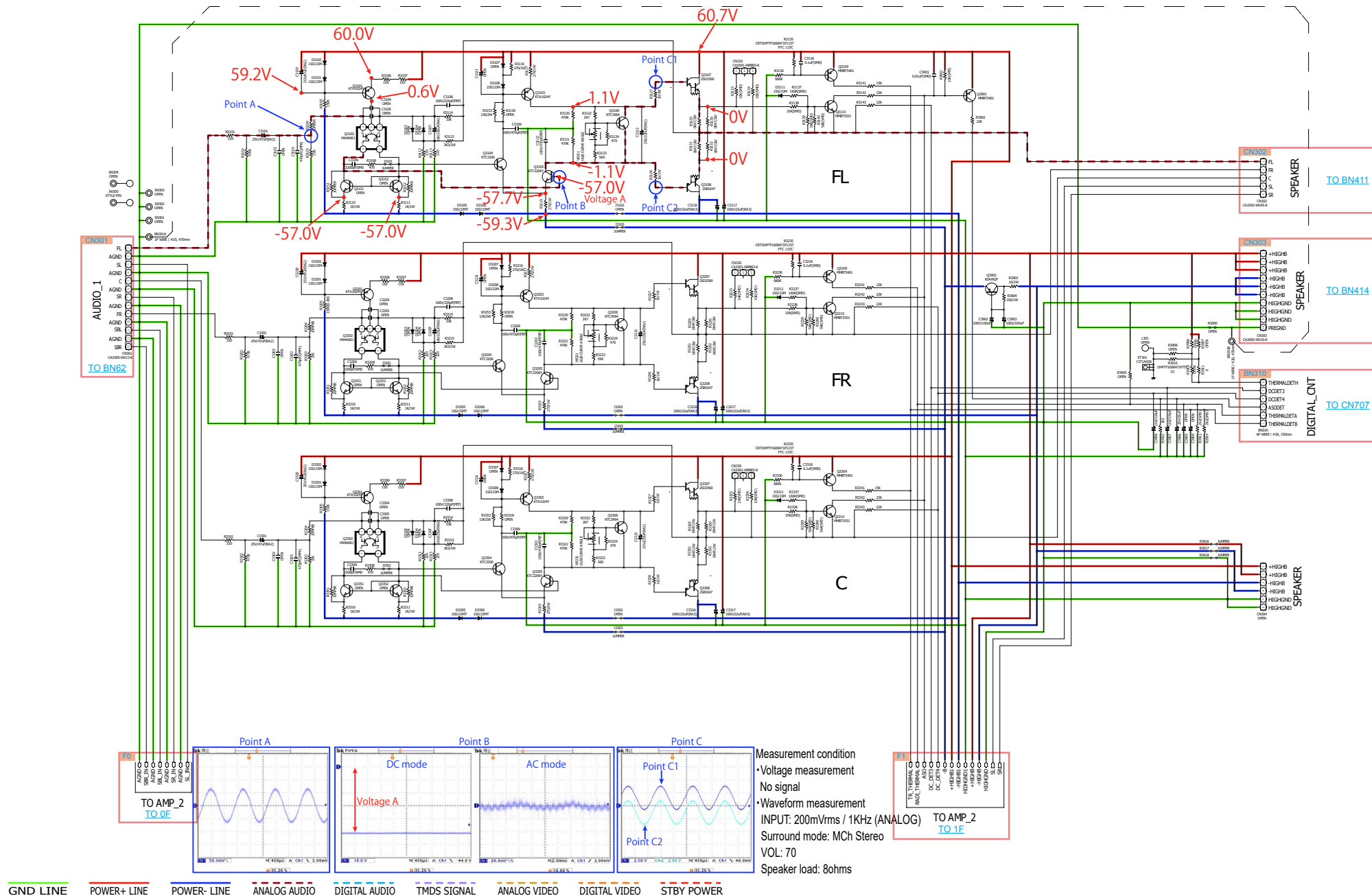


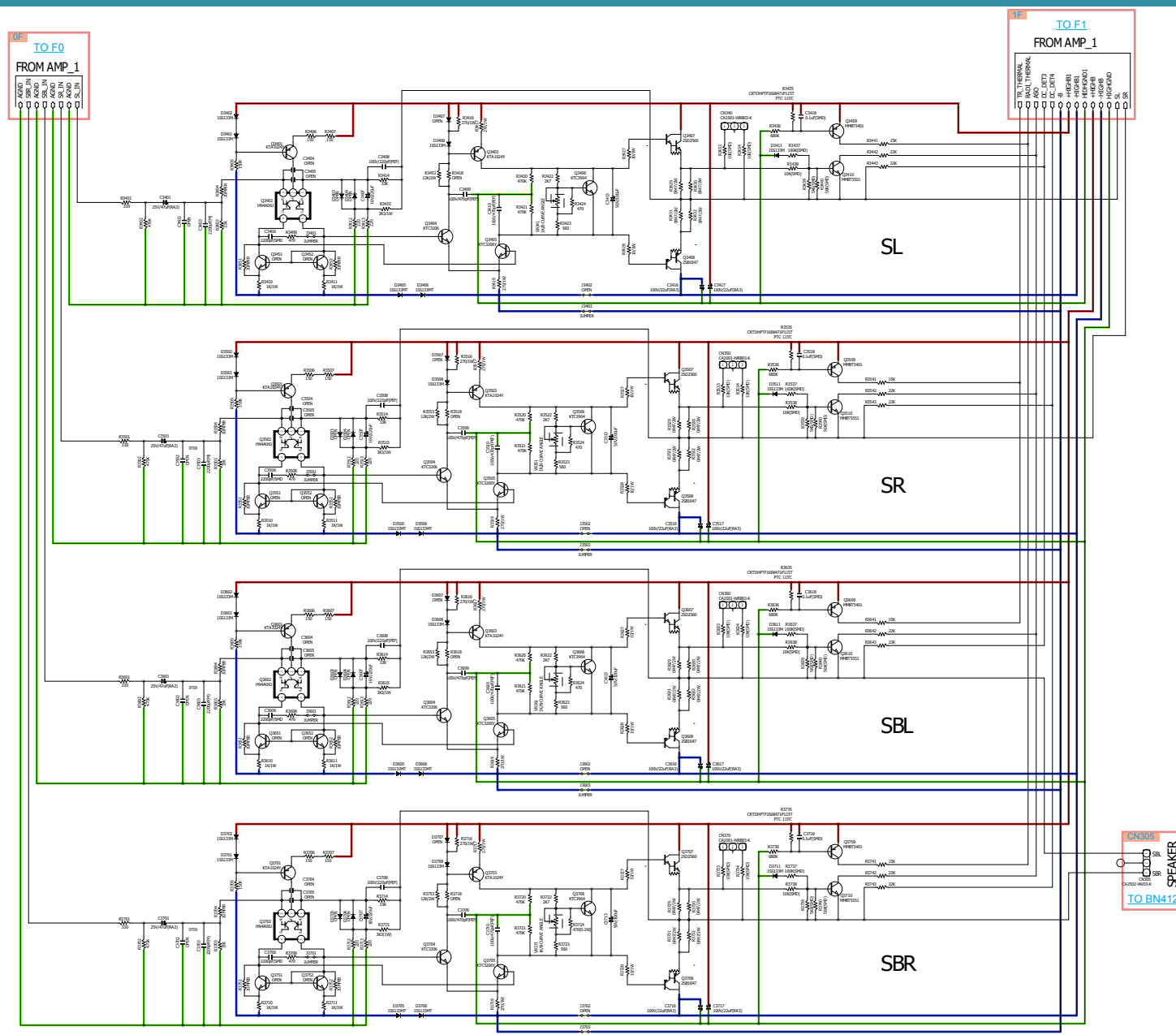
SCH20 VIDEO DAB & USB

DAB & USB



GND LINE POWER+ LINE POWER- LINE ANALOG AUDIO DIGITAL AUDIO TMDS SIGNAL ANALOG VIDEO DIGITAL VIDEO STBY POWER





GND LINE POWER+ LINE POWER- LINE ANALOG AUDIO DIGITAL AUDIO TMDS SIGNAL ANALOG VIDEO DIGITAL VIDEO STBY POWER

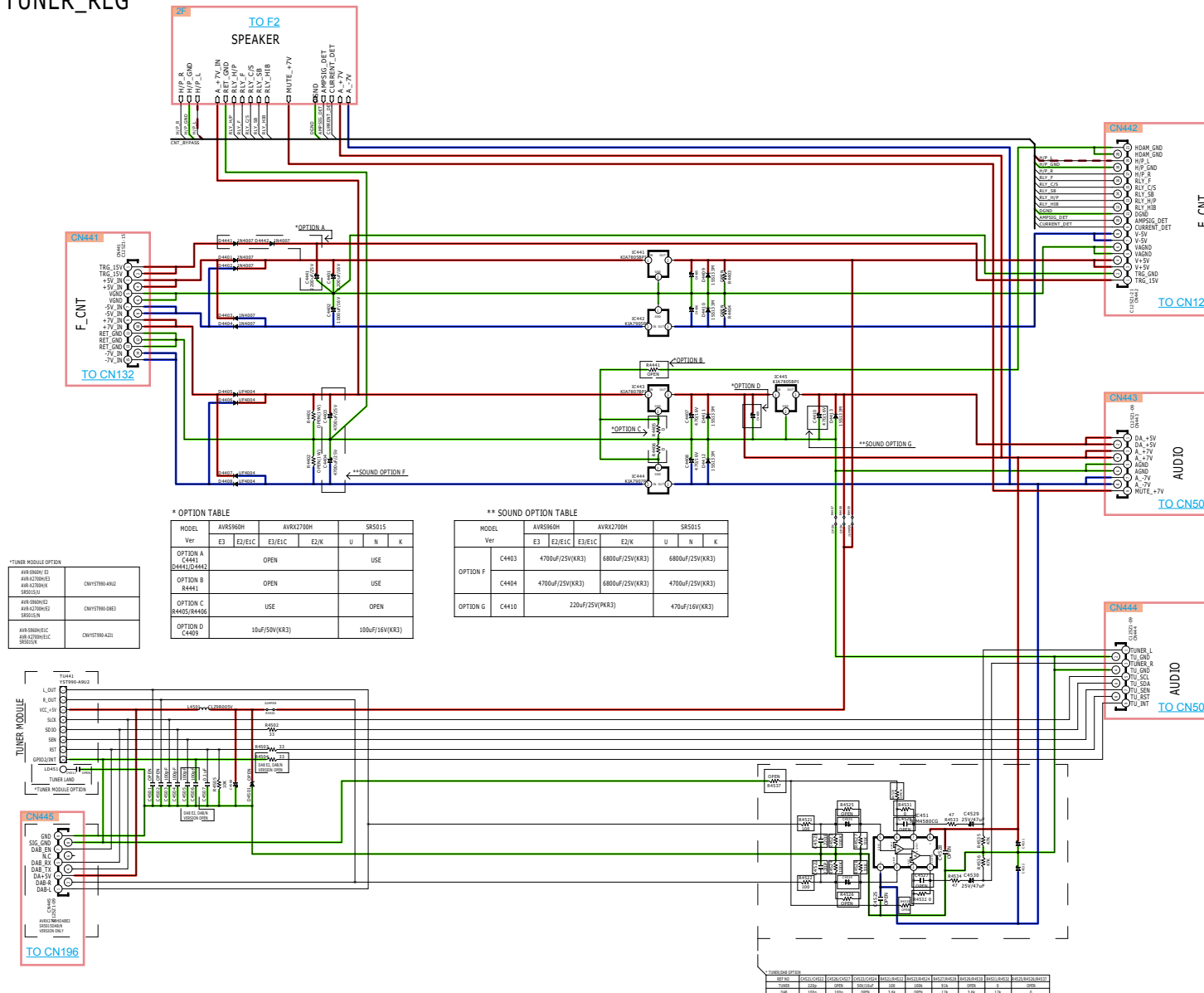
SCH23 AMP OPTION TABLE

MODEL		AVRS960H		AVRX2700H				SR5015		
Ref	Ver	E3	E2/E1C	E3	E1C	E2	K	U	N	F
C3101, C3201, C3301, C3401 C3501, C3601, C3701		25V/100uF(ROB)		25V/100uF(ROB)				25V/47uF(RA2)		
C3103, C3203, C3303		630V/2200pF(QMPK)		630V/2200pF(QMPK)				630V/470pF(QMPK)		
C3105, C3205, C3305, C3405 C3505, C3605, C3705		47pF(SMD)		47pF(SMD)				OPEN		
C3107, C3207, C3307		16V/470uF		16V/470uF				16V/220uF(RA2)		
C3407, C3507, C3607, C3707		16V/470uF		16V/470uF				16V/220uF		
C3108, C3208, C3308, C3408 C3508, C3608, C3708		OPEN		OPEN				100V/220pF(PEF)		
C3109, C3209, C3309, C3409 C3509, C3609, C3709		JUMPER		JUMPER				100V/470pF(PEF)		
C3110, C3210, C3310, C3410 C3510, C3610, C3710		100V/220pF(PEF)		100V/220pF(PEF)				100V/470pF(PEF)		
C3113, C3213, C3313		25V/220uF		25V/220uF		25V/220uF(RA3)		25V/220uF(RA2)		
C3413, C3513, C3613, C3713		25V/220uF		25V/220uF				50V/100uF		
C3116, C3216, C3316		100V/10uF		100V/10uF				100V/22uF(RA3)		
C3416, C3516, C3616, C3716 C3417, C3517, C3617, C3717		OPEN		OPEN				100V/22uF(RA3)		
C3117, C3217, C3317		100V/10uF		100V/10uF				100V/22uF(RA3)		
C3120, C3220, C3320		50V/47uF		50V/47uF				25V/47uF(RA2)		
C3121, C3221, C3321		50V/47uF		50V/47uF				OPEN		
D3105, D3205, D3305, D3405 D3505, D3605, D3705		JUMPER		JUMPER				1SS133MT		
D3106, D3206, D3306, D3406 D3506, D3606, D3706		JUMPER		JUMPER				1SS133MT		
D3107, D3207, D3307, D3407 D3507, D3607, D3707		1SS133MT		1SS133MT				OPEN		
Q3151, Q3251, Q3351, Q3451 Q3551, Q3651, Q3751		MMBT5551		MMBT5551				OPEN		
Q3152, Q3252, Q3352, Q3452 Q3552, Q3652, Q3752		MMBT5551		MMBT5551				OPEN		
Q3107, Q3207, Q3307, Q3407 Q3507, Q3607, Q3707		2SD2390		2SD2390				2SD2560		
Q3108, Q3208, Q3308, Q3408 Q3508, Q3608, Q3708		2SB1560		2SB1560				2SB1647		
Q3104, Q3204, Q3304, Q3404 Q3504, Q3604, Q3704		OPEN		OPEN				KTC3206		
CN304		USE		USE				OPEN		

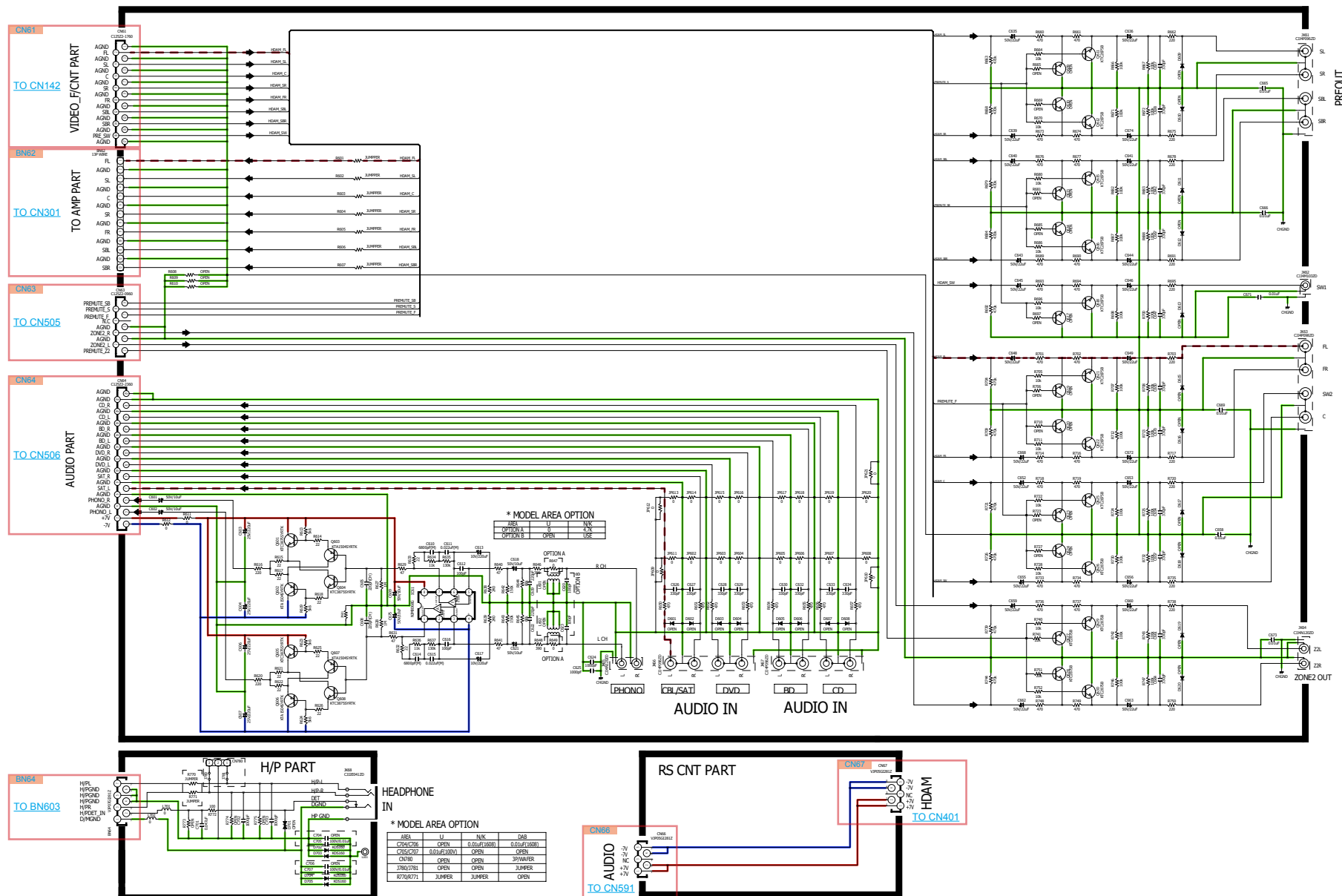
MODEL		AVRS960H		AVRX2700H				SR5015		
Ref	Ver	E3	E2/E1C	E3	E1C	E2	K	U	N	F
R3101, R3201, R3301, R3401 R3501, R3601, R3701		470		470				330		
R3108, R3208, R3308, R3408 R3508, R3608, R3708		820		820				470		
R3151, R3251, R3351, R3451 R3551, R3651, R3751		OPEN		OPEN				JUMPER		
R3152, R3252, R3352, R3452 R3552, R3652, R3752		OPEN		OPEN				JUMPER		
R3110, R3210, R3310, R3410 R3510, R3610, R3710		470(1/2W)		470(1/2W)				1K(1W)		
R3111, R3211, R3311, R3411 R3511, R3611, R3711		470(1/2W)		470(1/2W)				1K(1W)		
R3116, R3216, R3316, R3416 R3516, R3616, R3716		OPEN		OPEN				270(1W)		
R3117, R3217, R3317, R3417 R3517, R3617, R3717		68(1W)		68(1W)				270(1W)		
R3118, R3218, R3318, R3418 R3518, R3618, R3718		56K		56K				OPEN		
R3127, R3227, R3327, R3427 R3527, R3627, R3727		10(1W)		10(1W)				10(1W)		
R3128, R3228, R3328, R3428 R3528, R3628, R3728		10(1W)		10(1W)				10(1W)		
R3153, R3253, R3353, R3453 R3553, R3653, R3753		OPEN		OPEN				12K(2W)		
R3119, R3219, R3319, R3419 R3519, R3619, R3719		68(1W)		68(1W)				270(1W)		
R3120, R3220, R3320, R3420 R3520, R3620, R3720		220K		220K				470K		
R3121, R3221, R3321, R3421 R3521, R3621, R3721		220K		220K				470K		
R3135, R3235, R3335, R3435 R3535, R3635, R3735		DHPTF1608471P105T		DHPTF1608471P105T				DHPTF1608471P115T		
R3136, R3236, R3336, R3436 R3536, R3636, R3736		200K		200K				680K		
R3137, R3237, R3337, R3437 R3537, R3637, R3737		150K(SMD)		150K(SMD)				160K(SMD)		
R3140, R3240, R3340, R3440 R3540, R3640, R3740		OPEN		OPEN				56K(SMD)		
R3141, R3241, R3341, R3441 R3541, R3641, R3741		47K		47K				15K		
R3903		4R7(1W)		4R7(1W)				10(1W)		
R3904		270(1W)		270(1W)				100(1W)		
R3913		10K(SMD)		10K(SMD)				2K2(SMD)		
R3914		10K(SMD)		10K(SMD)				2K2(SMD)		
R3915		2K7		2K7				1K2		
R3916, R3917, R3918		OPEN		OPEN				JUMPER		
R3106, R3206, R3306, R3406 R3506, R3606, R3706 R3107, R3207, R3307, R3407 R3507, R3607, R3707		100		100				150		

GND LINE POWER+ LINE POWER- LINE ANALOG AUDIO DIGITAL AUDIO TMD5 SIGNAL ANALOG VIDEO DIGITAL VIDEO STBY POWER

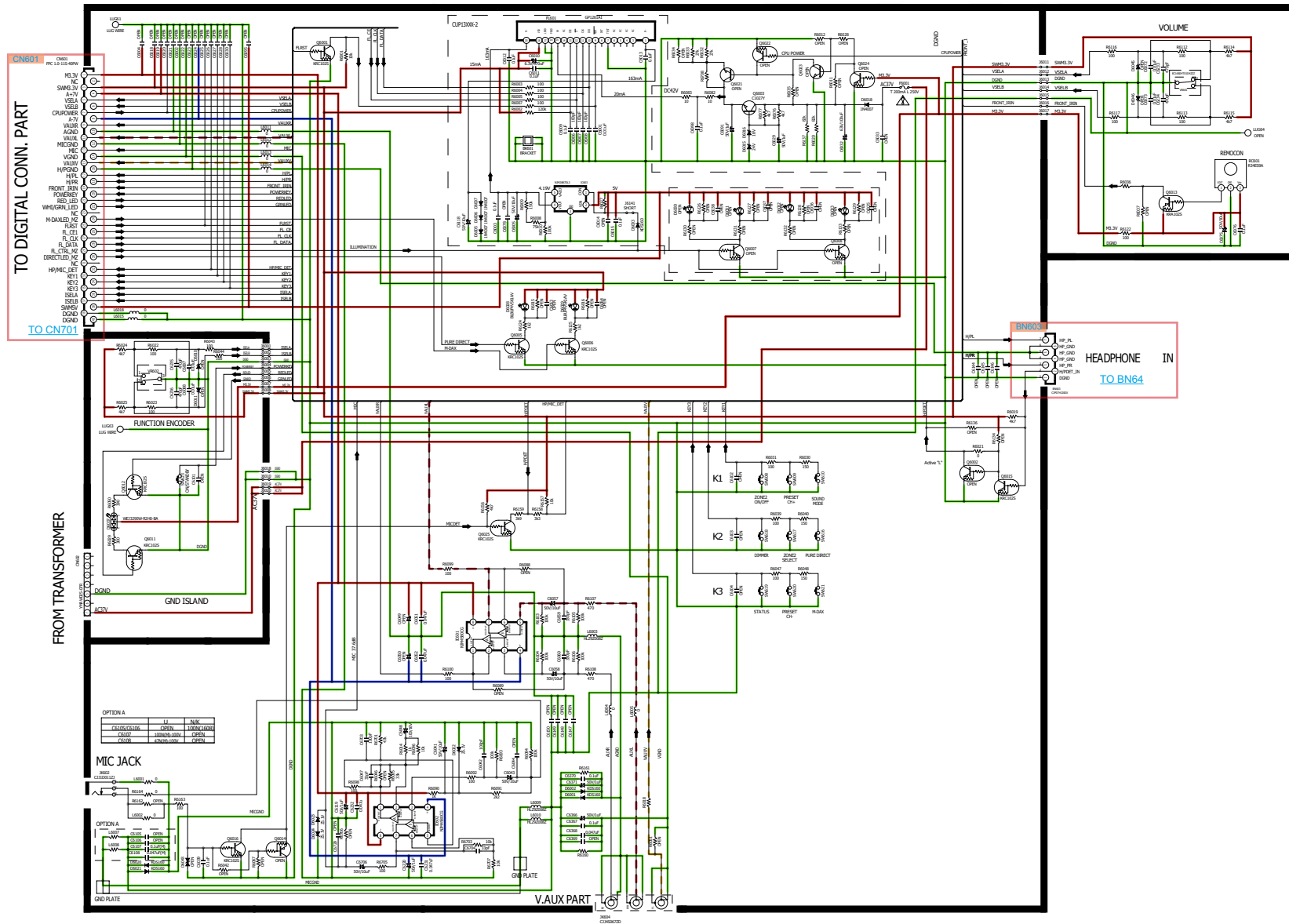
TUNER_REG



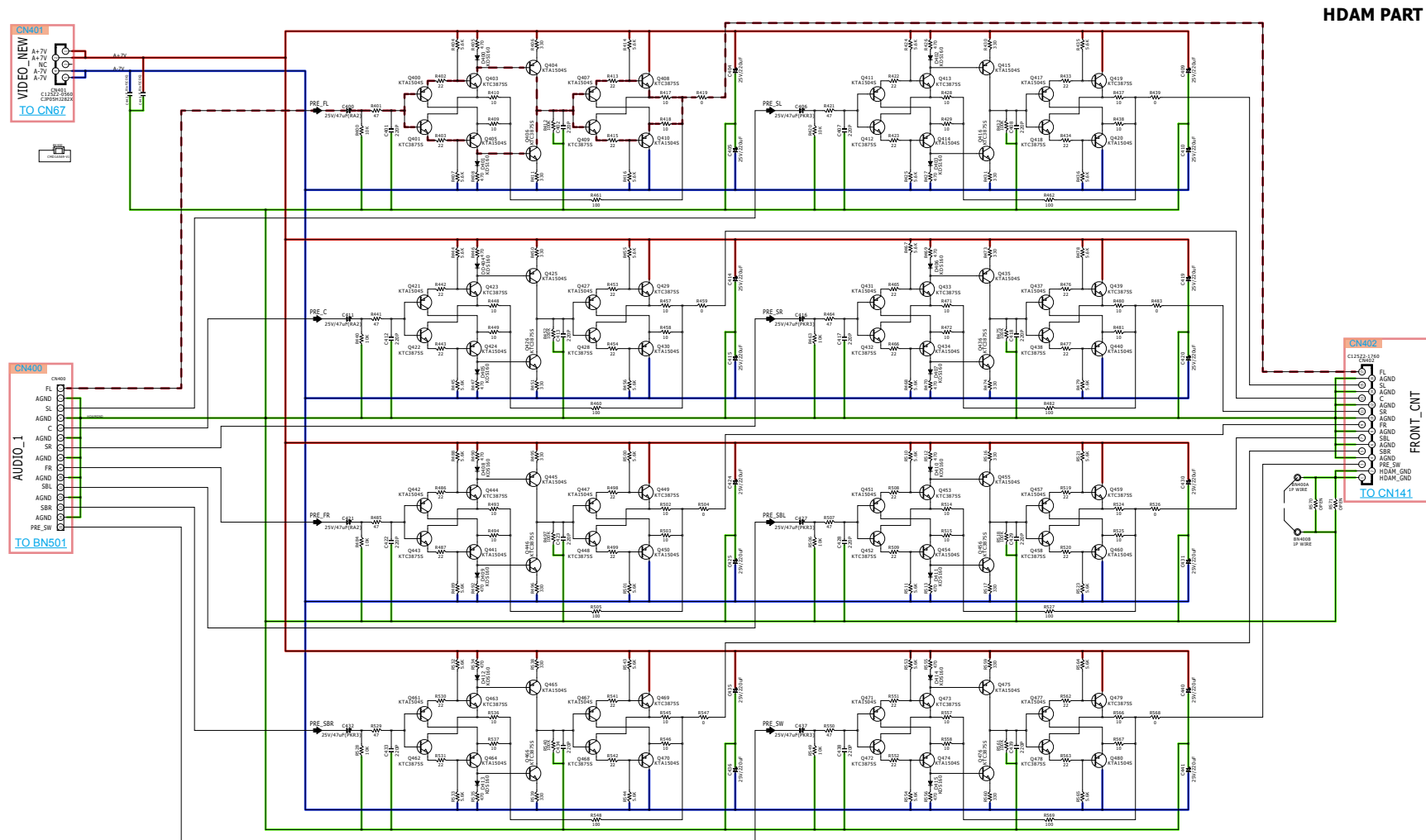
GND LINE POWER+ LINE POWER- LINE ANALOG AUDIO DIGITAL AUDIO TMDS SIGNAL ANALOG VIDEO DIGITAL VIDEO STBY POWER



GND LINE POWER+ LINE POWER- LINE ANALOG AUDIO DIGITAL AUDIO TMDS SIGNAL ANALOG VIDEO DIGITAL VIDEO STBY POWER

SR5015
FRONT B'D

GND LINE POWER+ LINE POWER- LINE ANALOG AUDIO DIGITAL AUDIO TMDs SIGNAL ANALOG VIDEO DIGITAL VIDEO STBY POWER



HDAM PART

FRONT_CNT
CN402
C13222,2309
FL
AGND
SL
AGND
SR
AGND
FR
AGND
SBL
AGND
SBR
AGND
PRE_SW
HDAM_GND
TO CN141

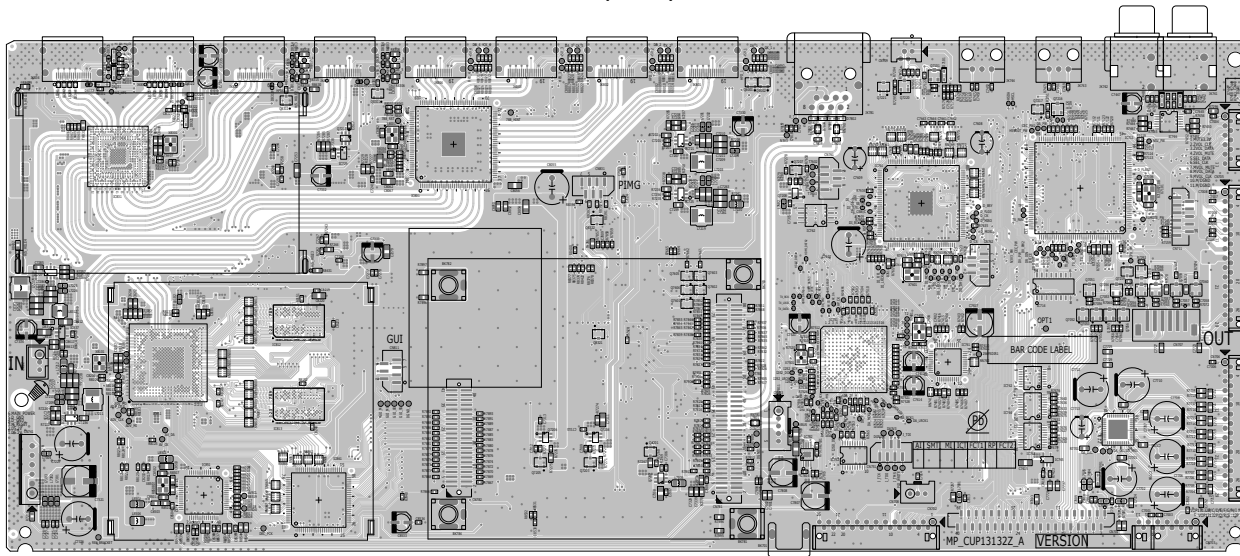
AUDIO_1
CN400
FL
AGND
SL
AGND
SR
AGND
FR
AGND
SBL
AGND
SBR
AGND
PRE_SW
TO BN501

VIDEO_NEW
CN401
A7V
A7V
A7V
C13222,2309
C13222,2309
TO CN67

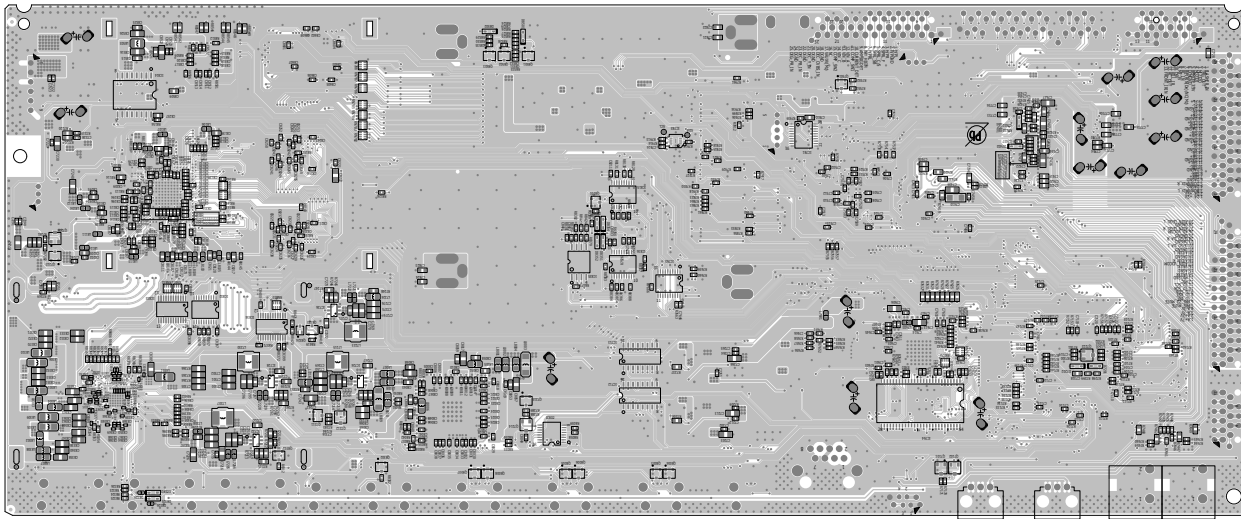
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DIGITAL

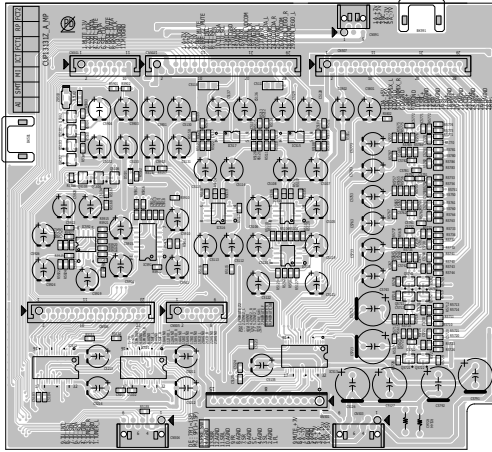
DIGITAL (A side)



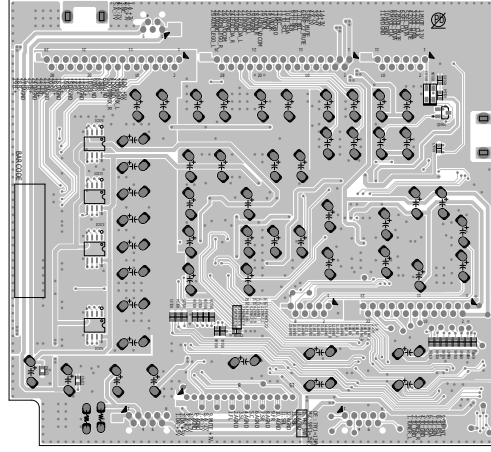
DIGITAL (B side)



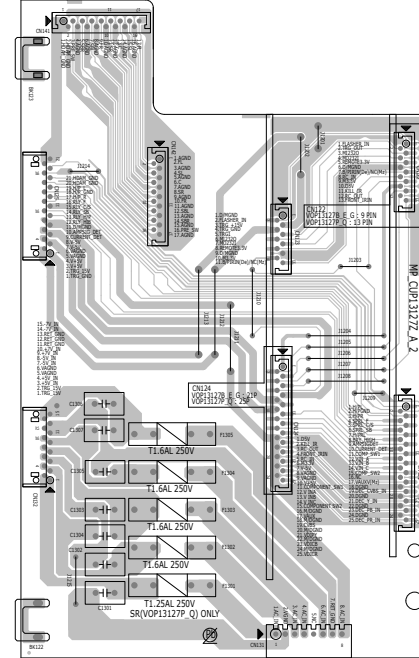
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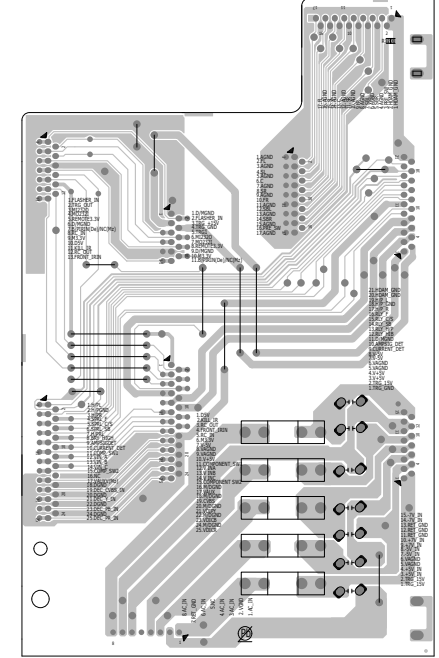
AUDIO (B side)



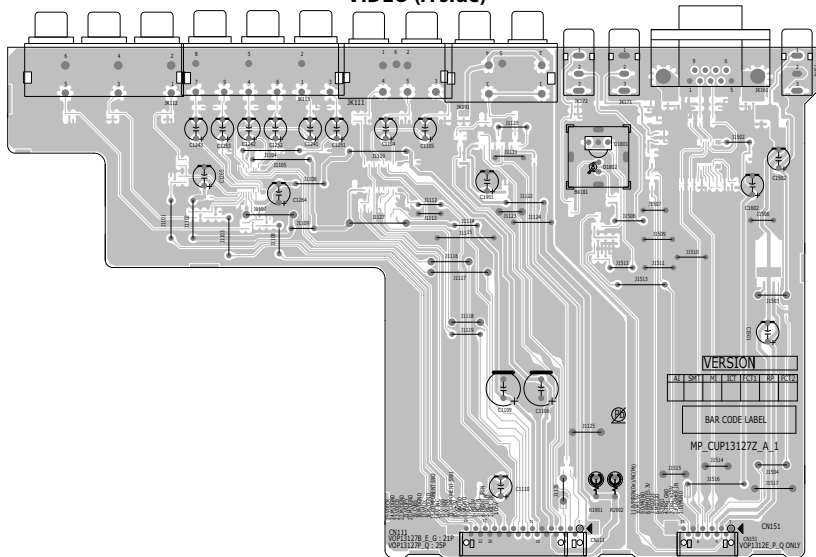
FRONT CNT (A side)



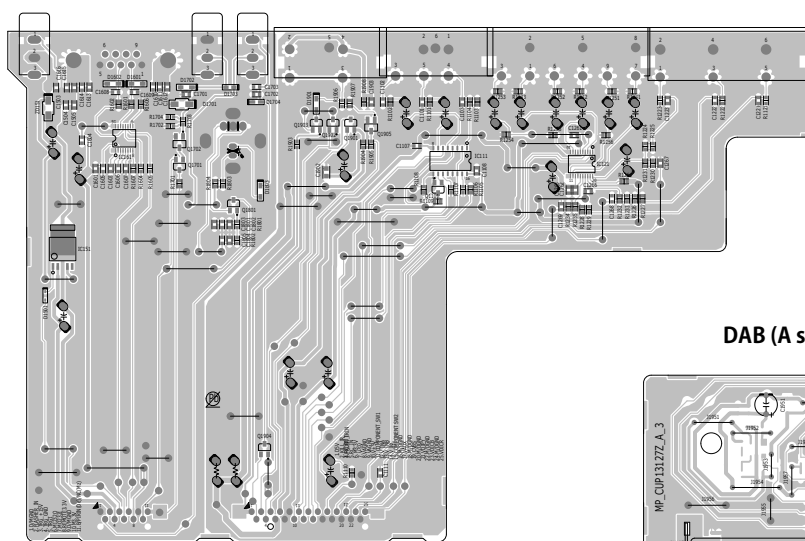
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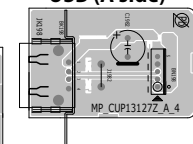
VIDEO (A side)



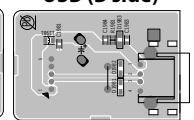
VIDEO (B side)



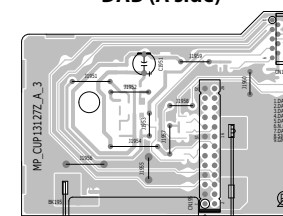
USB (A side)



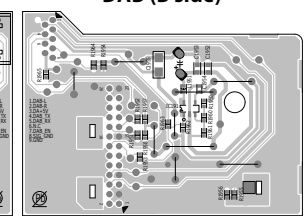
USB (B side)

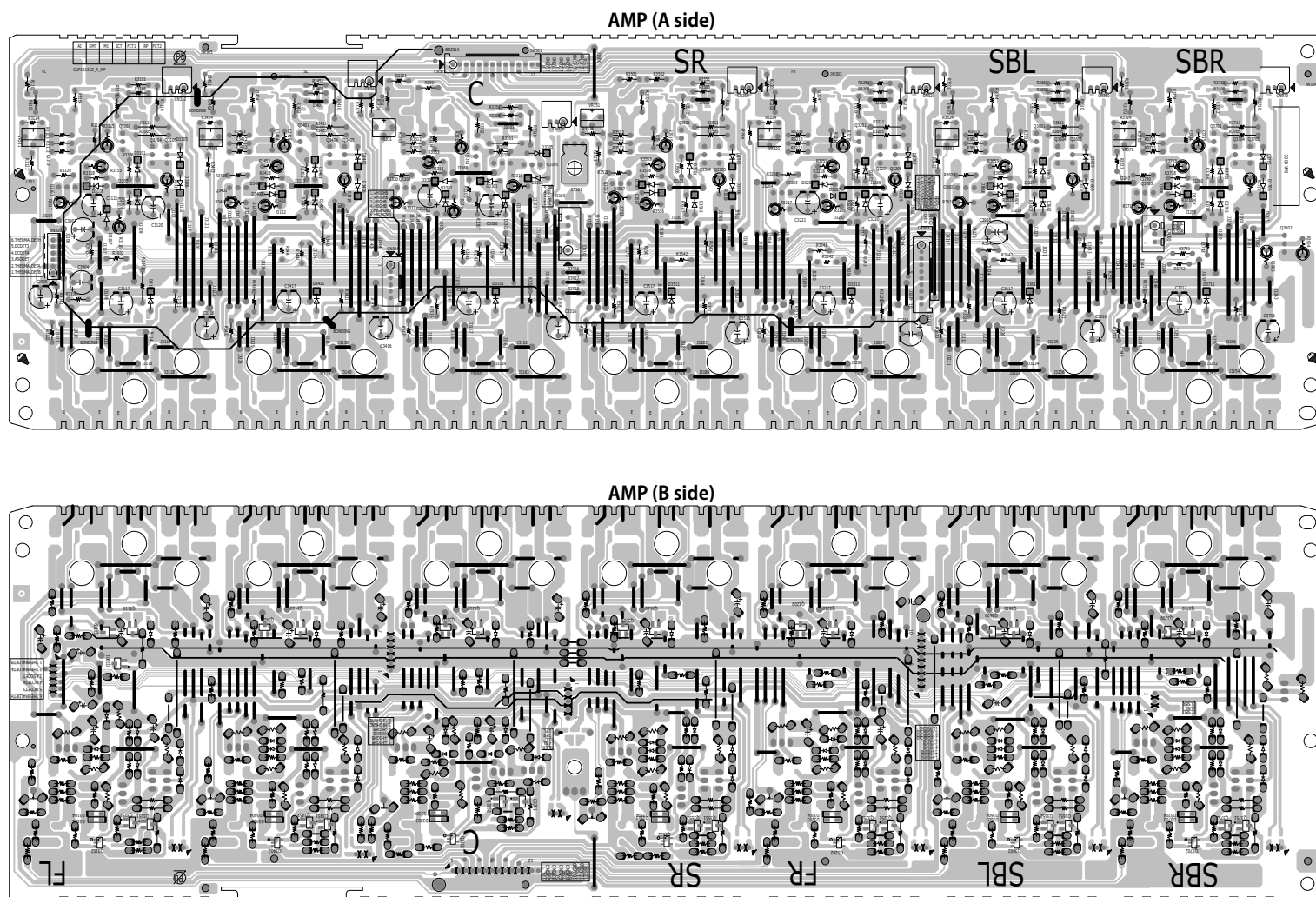


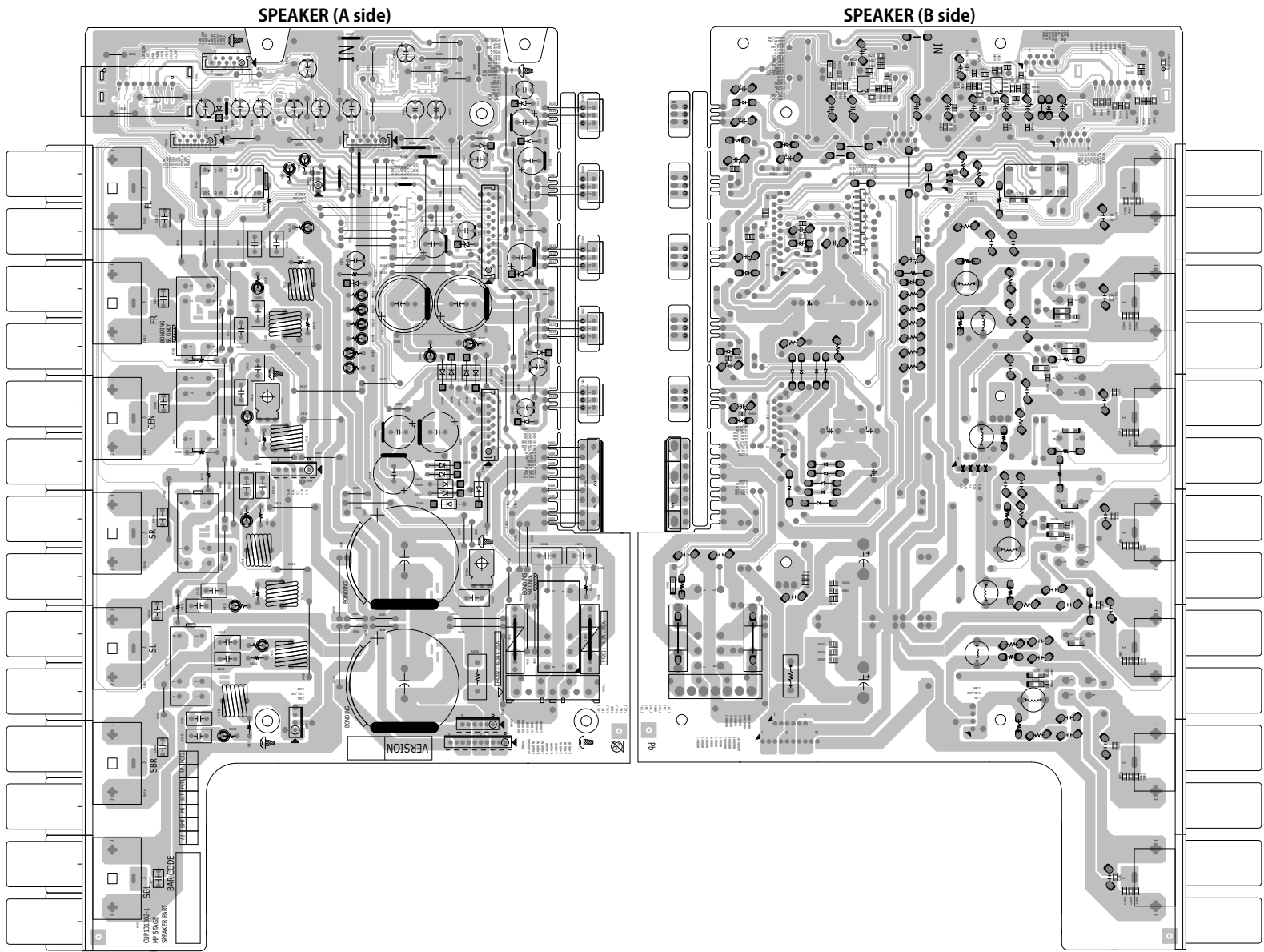
DAB (A side)

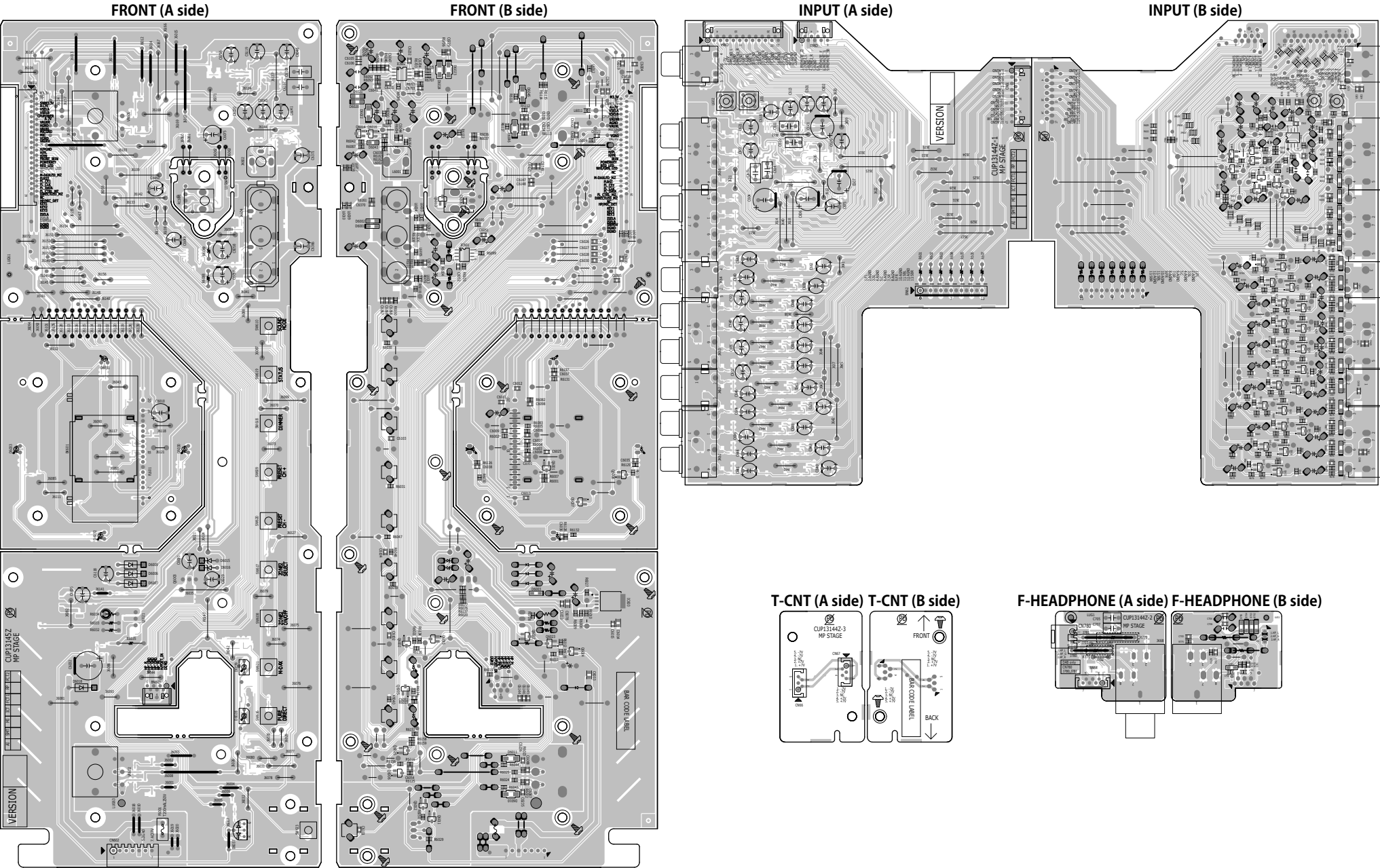


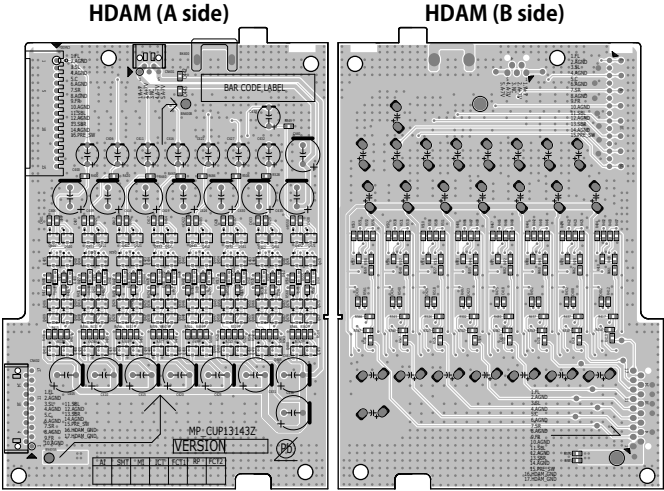
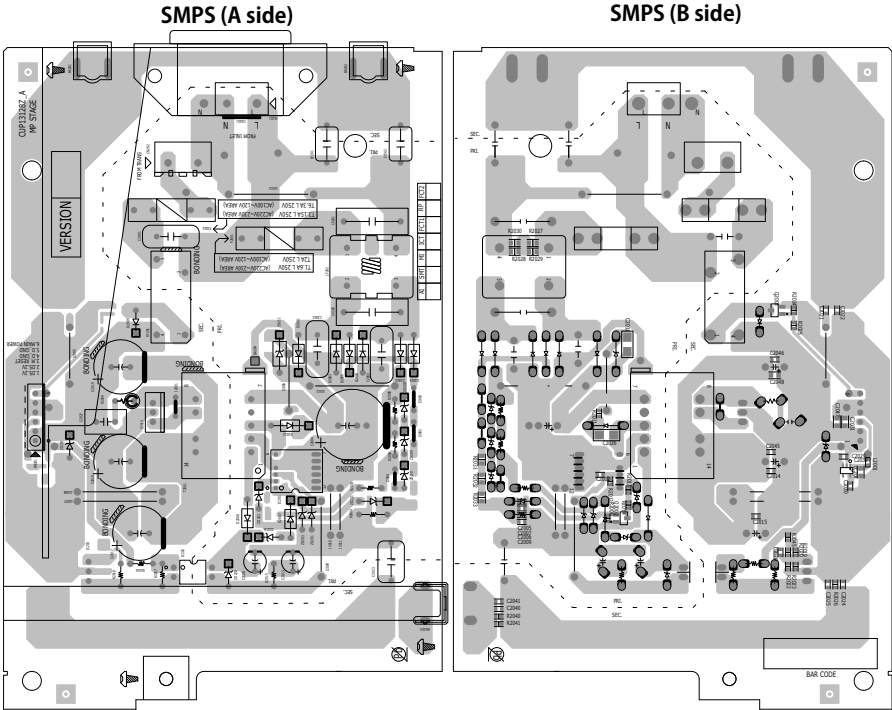
DAB (B side)



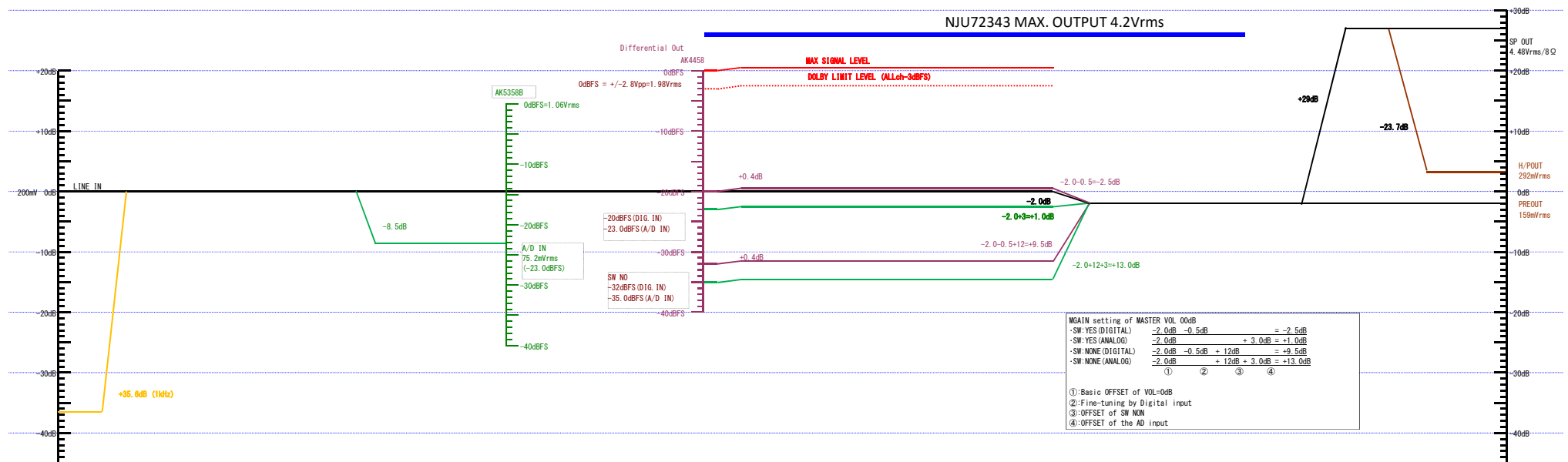
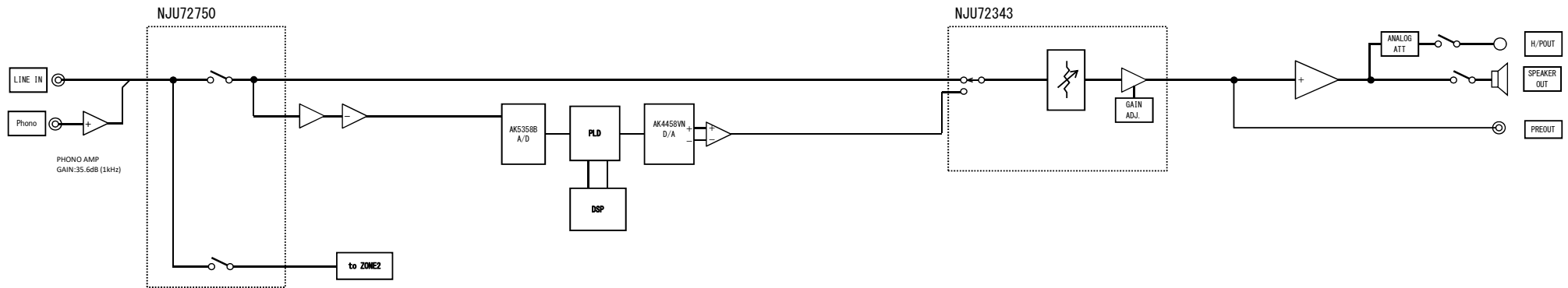


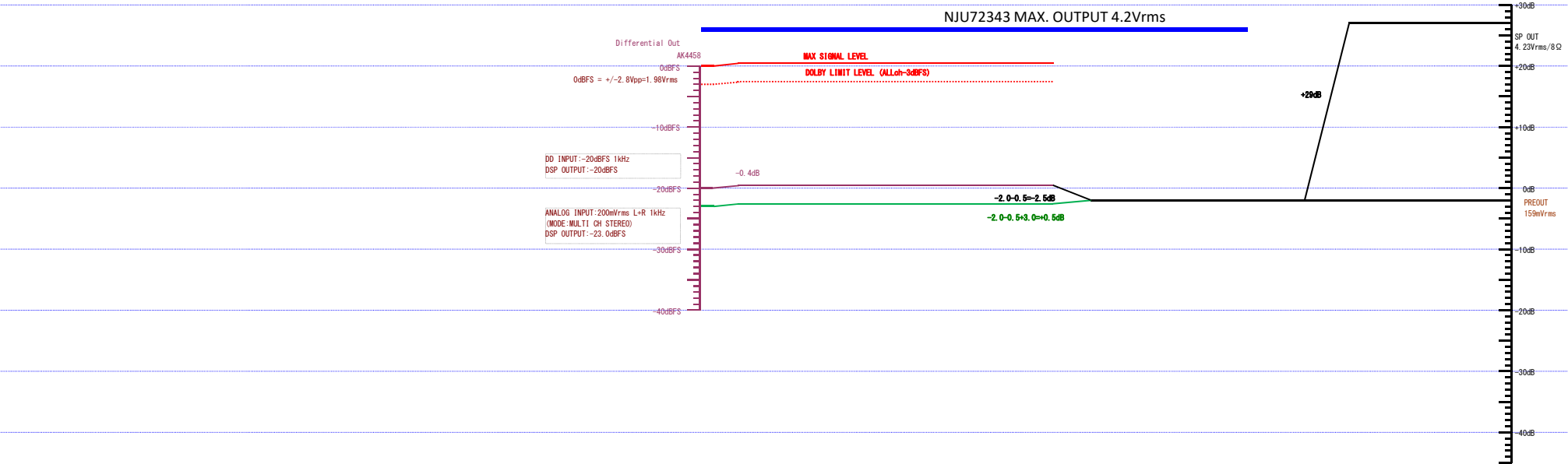
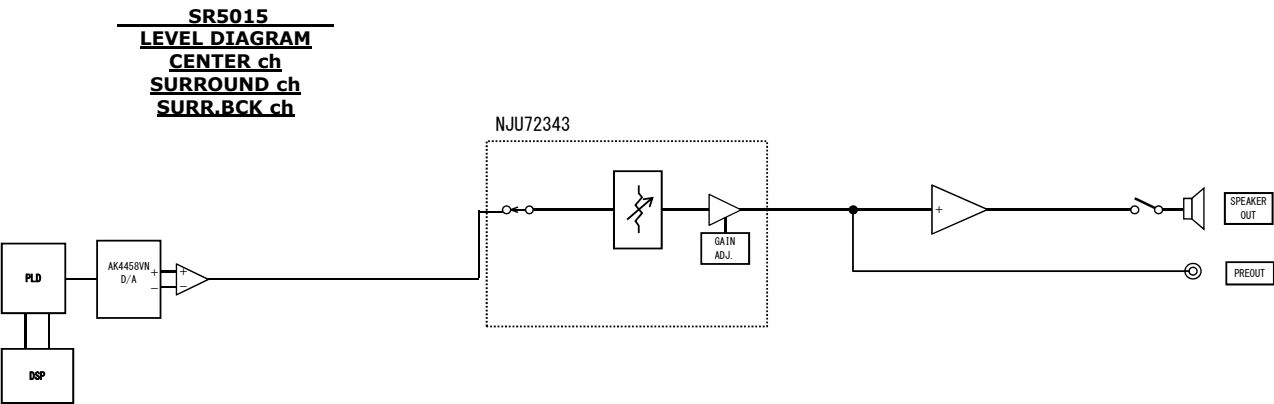




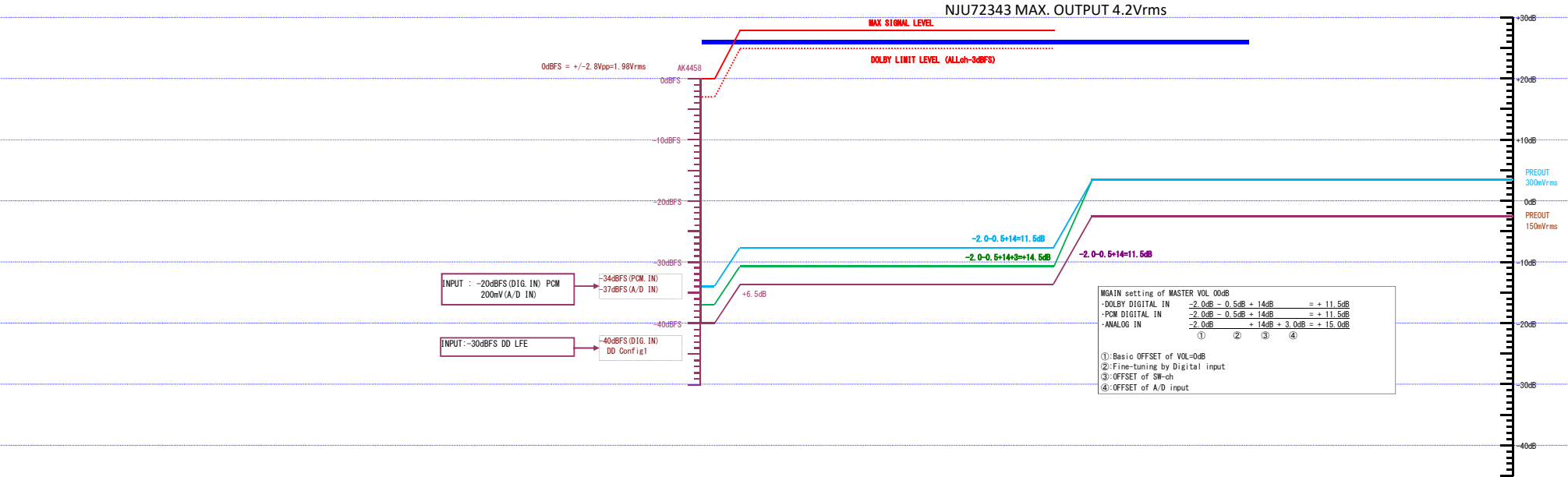
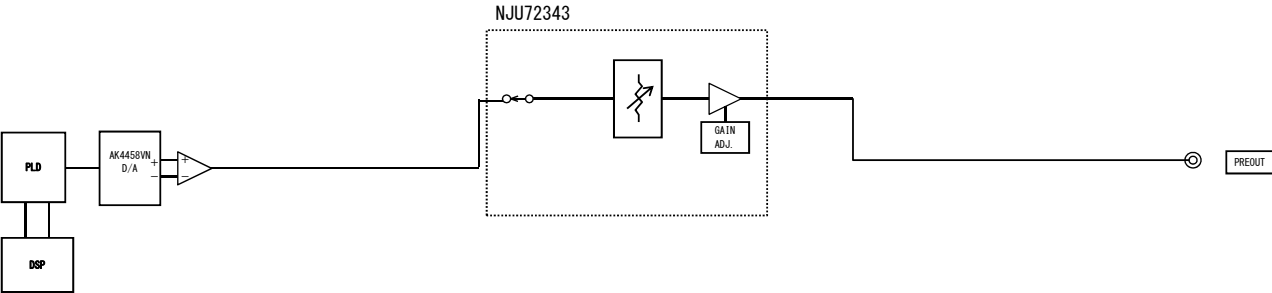


FRONT ch

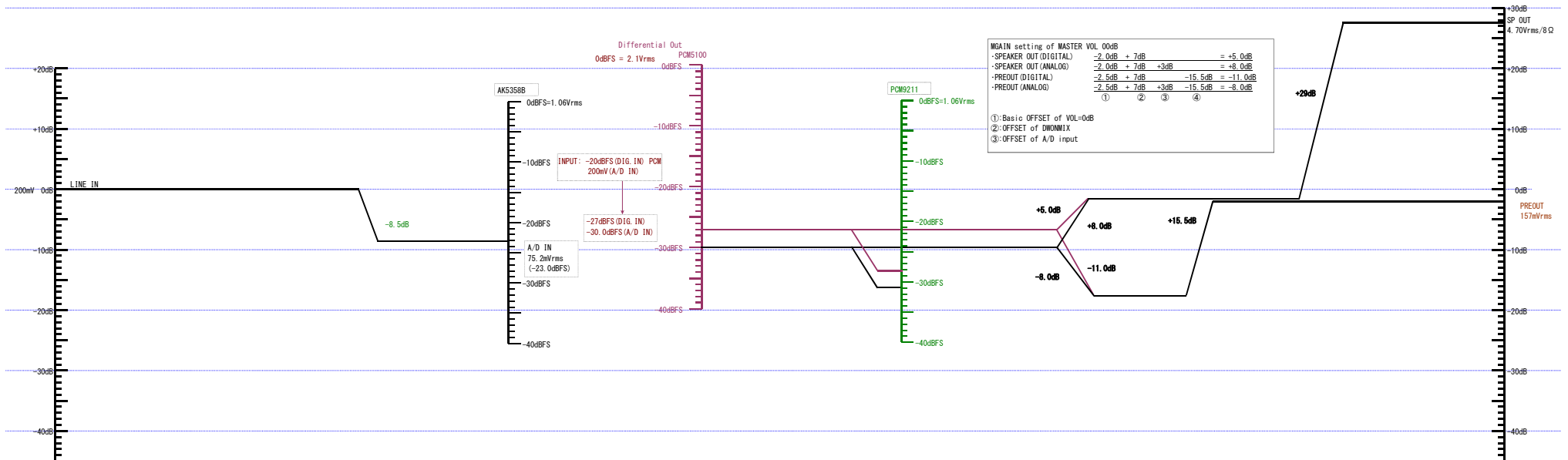
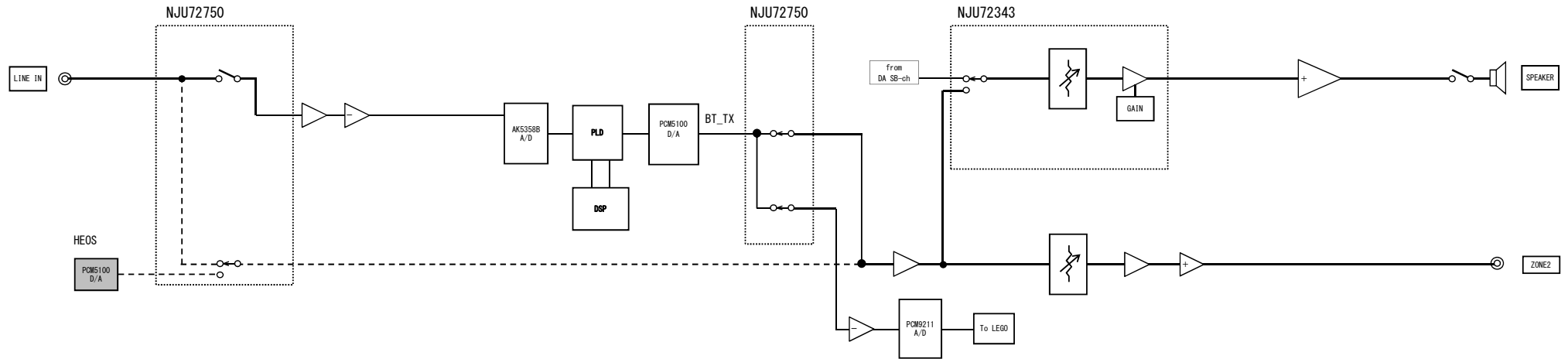




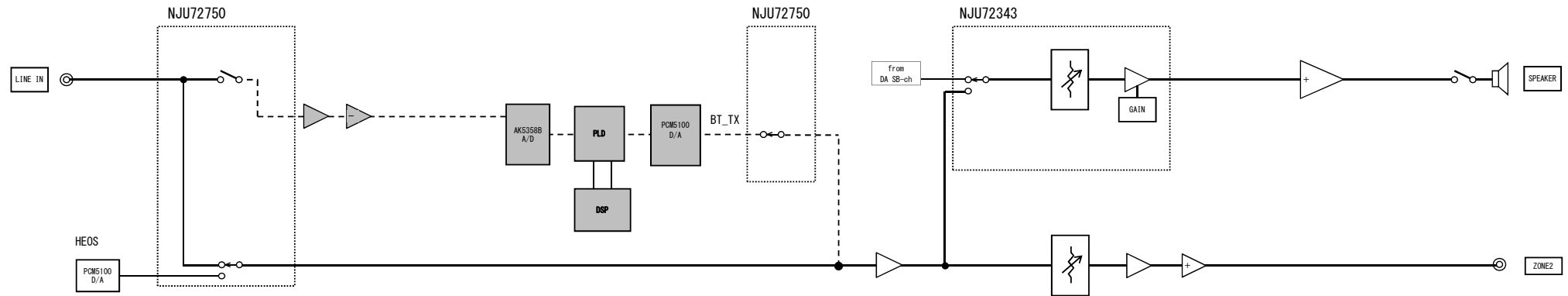
SR5015
LEVEL DIAGRAM
SUBWOOFER ch



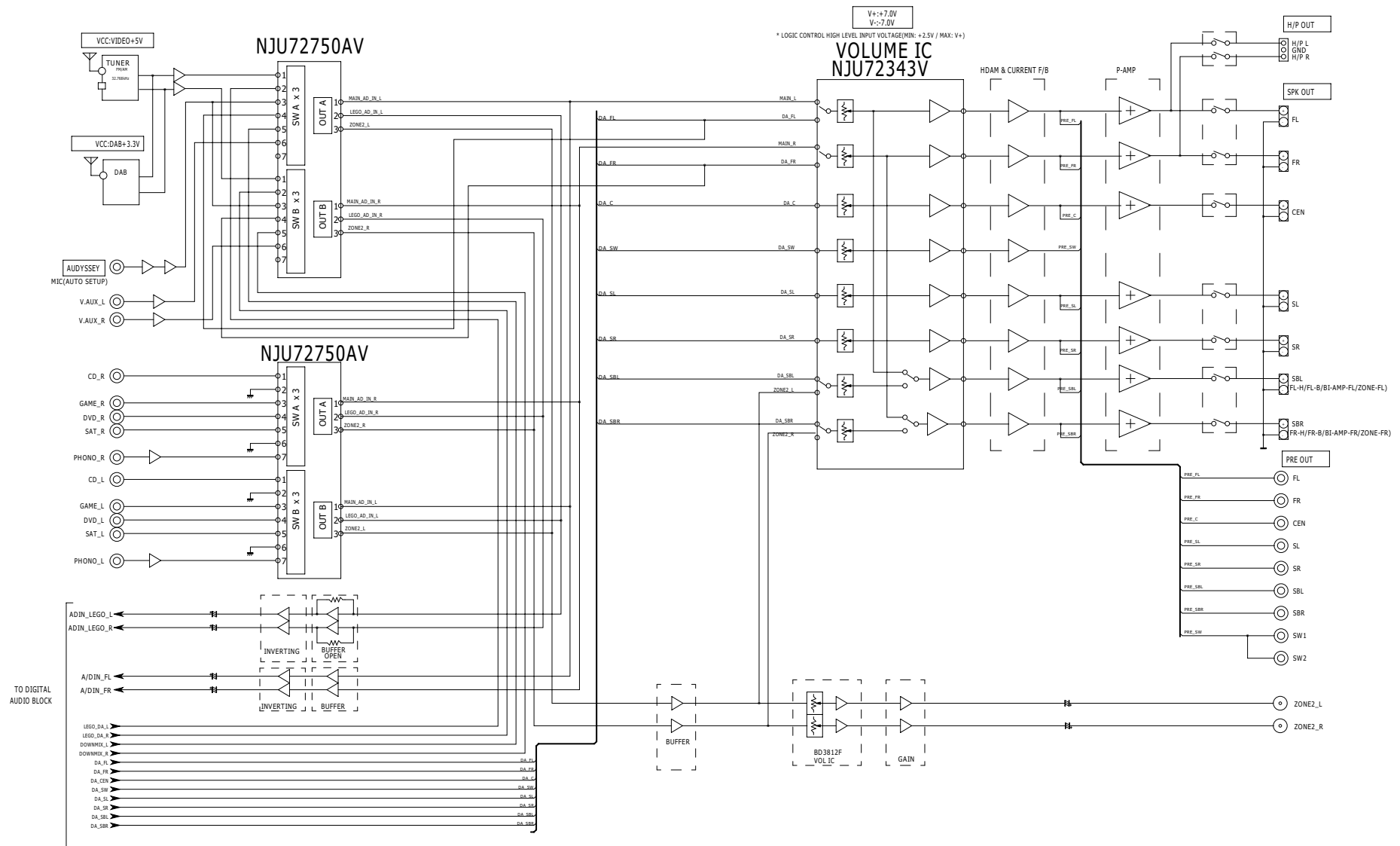
SR5015
LEVEL DIAGRAM
Distribution
ZONE2(w/ Source)



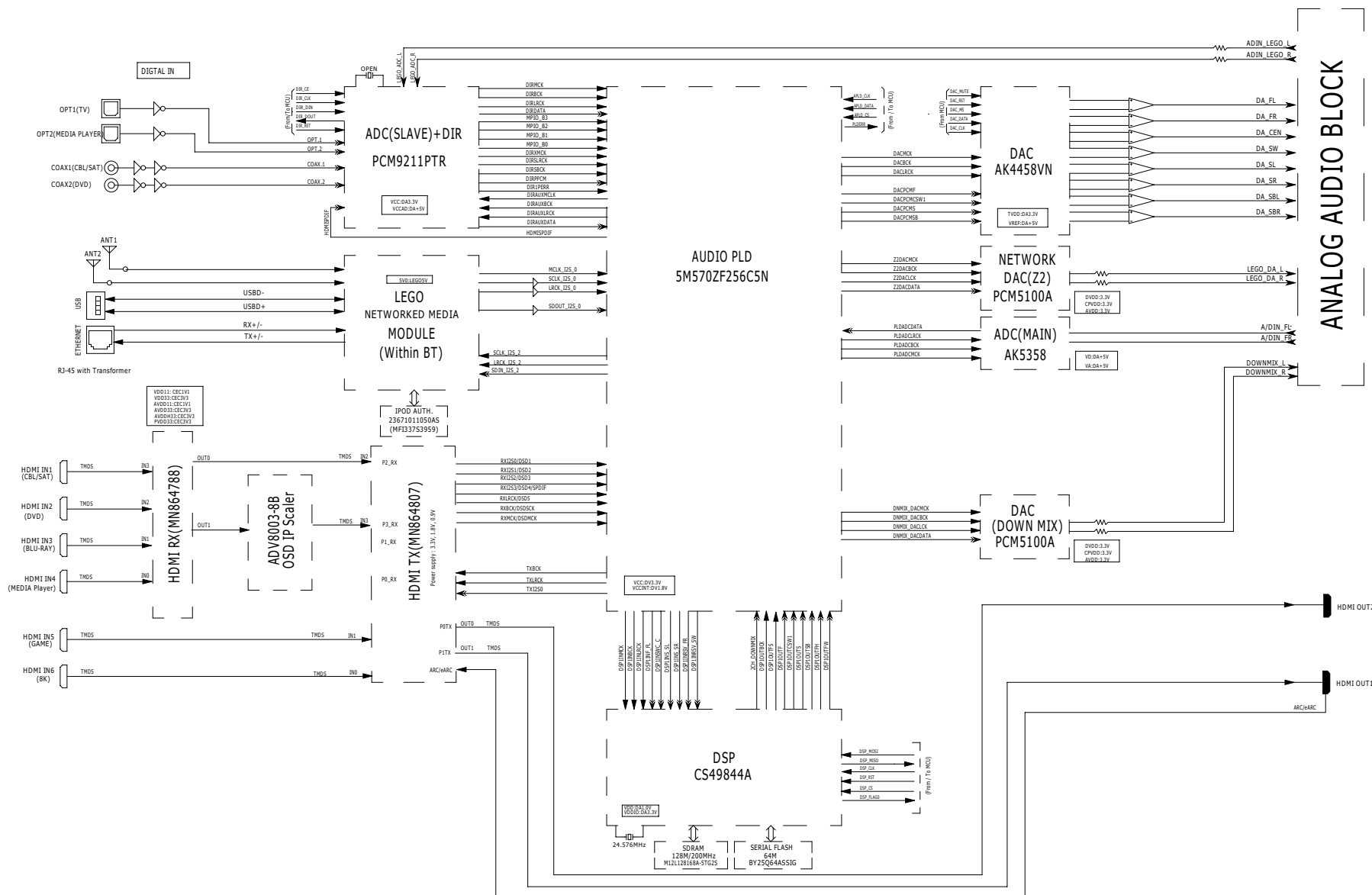
SR5015
LEVEL DIAGRAM
ZONE2(w/o Source)



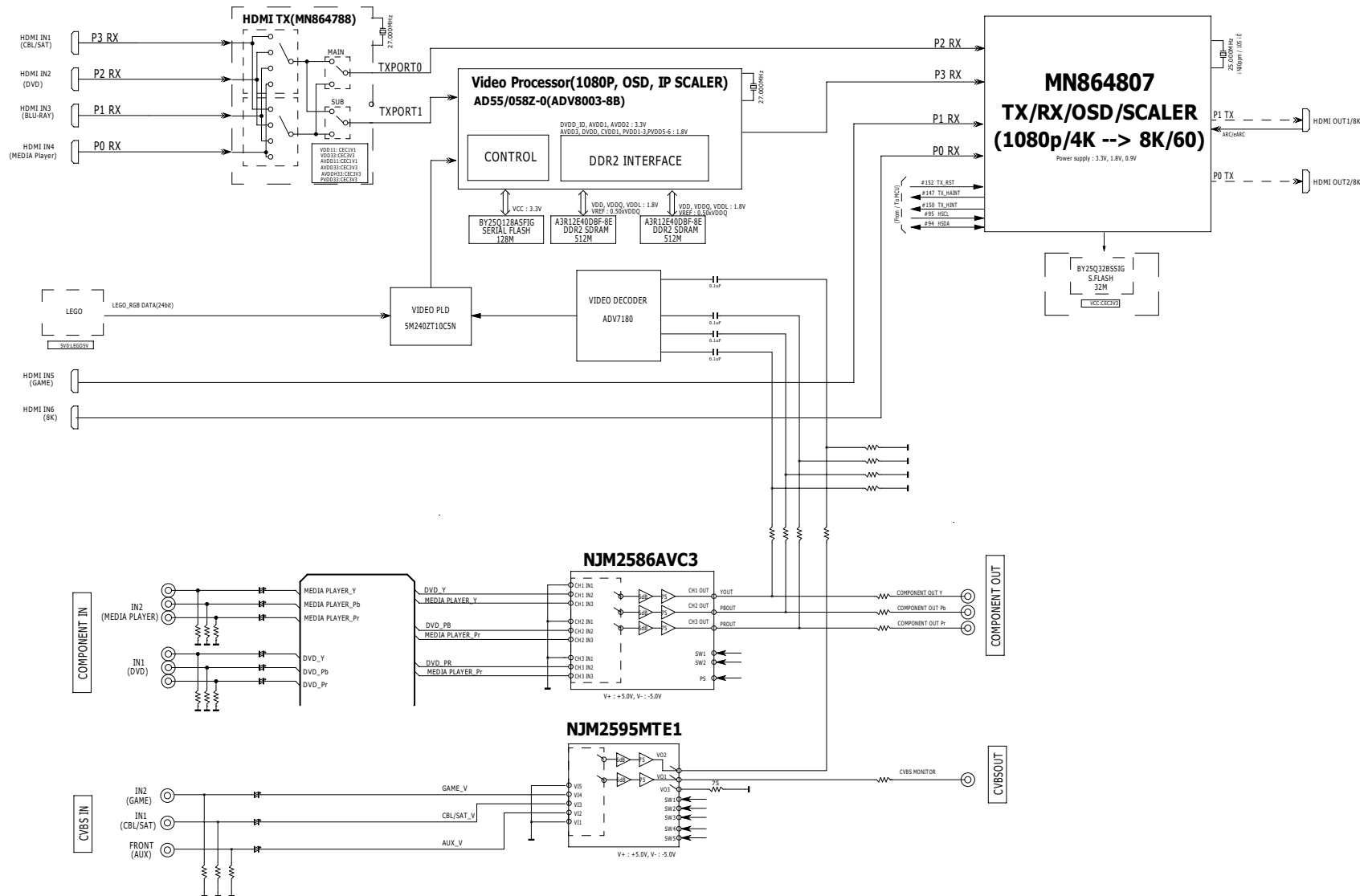
SR5015 ANALOG AUDIO BLOCK



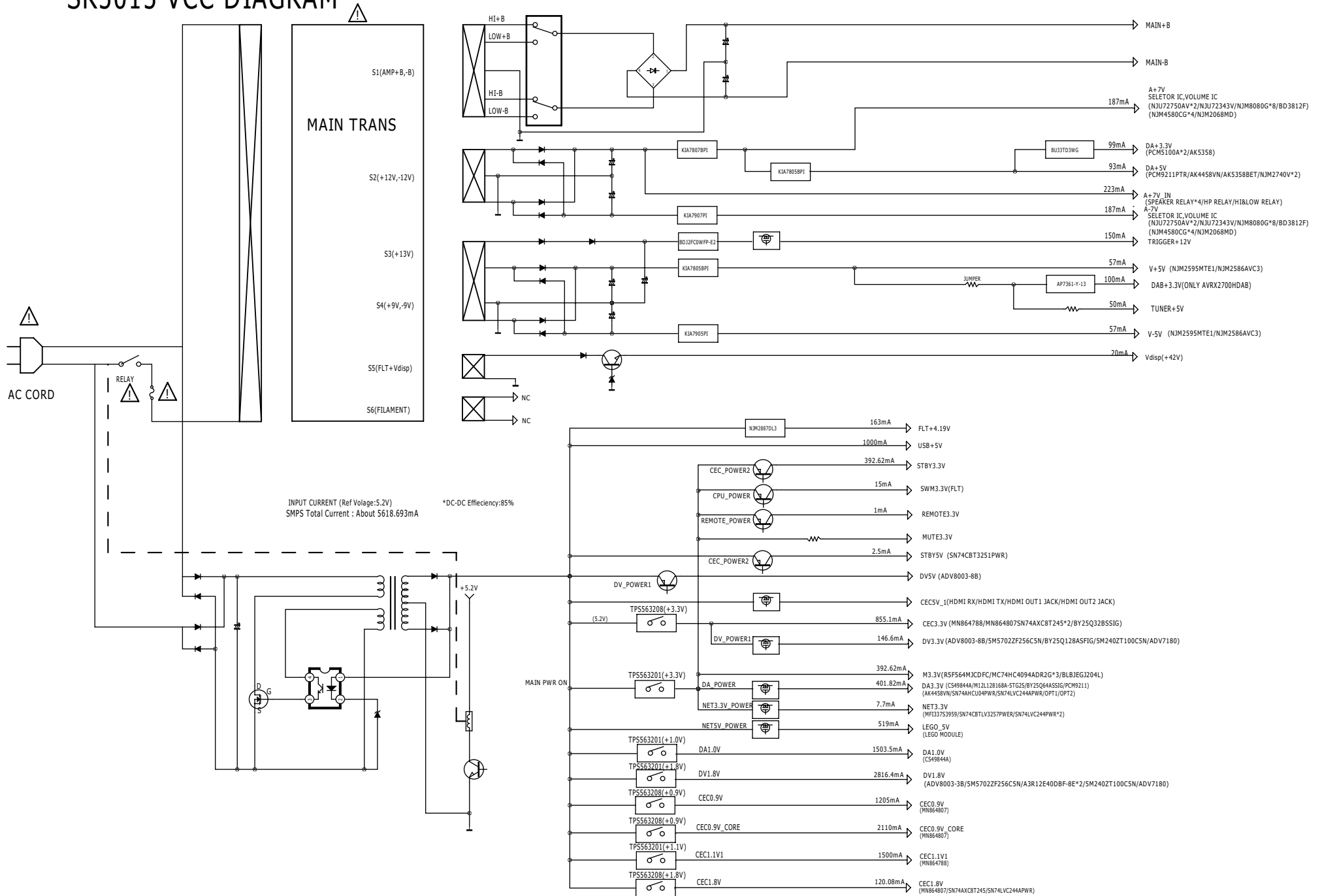
SR5015 DIGITAL AUDIO BLOCK



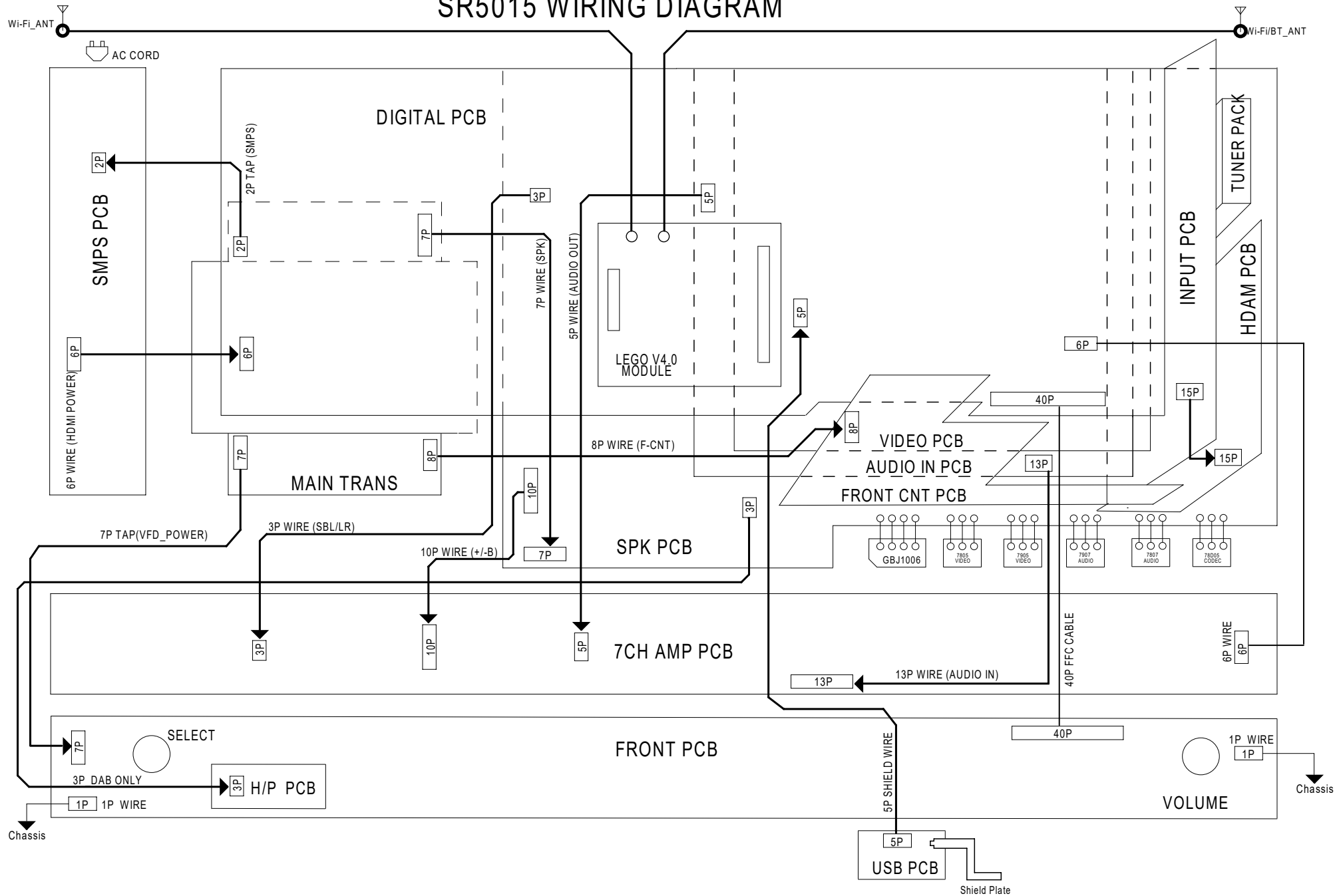
SR5015 VIDEO BLOCK



SR5015 VCC DIAGRAM



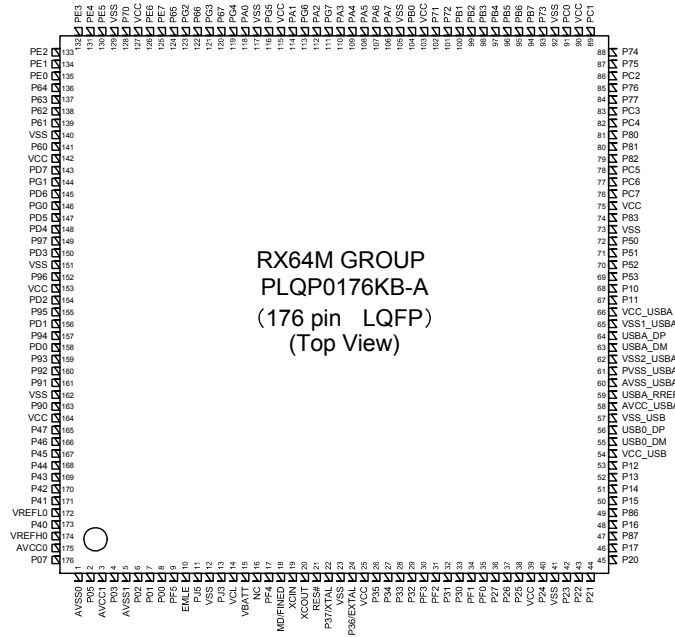
SR5015 WIRING DIAGRAM



Only major semiconductors are shown, general semiconductors etc. are omitted to list.
The semiconductor which described a detailed drawing in a schematic diagram are omitted to list.

1. IC's

R5F564MJCDFC (DIGITAL : IC711)



RX64M GROUP
PLQP0176KB-A
(176 pin LQFP)
(Top View)

Terminal Functions

Pin	Pin Name	Symbol	I/O	Pu/Pd	STBY	STOP	CEC STBY	Function
1	AVSS0	AVSS0	-		-	-	-	Ground pin
2	P05/IRQ13	POWER_KEY	I	M3VPu	I	I	I	Detect Power switch (Release from wait mode, set to interrupt)
3	AVCC1	AVCC1	-		-	-	-	Power supply pin
4	P03/IRQ11	RED_LED	O		L/H	L	H	POWER/STANDBY LED control pin
5	AVSS1	AVSS1	-		-	-	-	Ground pin
6	P02/SCK6/IRQ10/AN120	REMOTE_POWER	O		L	L	L	232C power supply (REMOTE 3.3V) control pin
7	P01/RXD6/IRQ9/AN119	RXD_MI232O	I	Pd	I	I	I	External data input port (for AMX/FW update via 232C): Connector is FFC
8	P00/TXD6/IRQ8/AN118	TXD_MO232I	O		L	L	L	External data output port (for AMX/FW update via 232C): Connector is FFC
9	PF5/IRQ4	WHITE_LED (X2700H(NA)) / GREEN_LED (X2700H(EU/CH/JPI)/S960H/SR5015/NR1711)	O		L	L	L	POWER LED control pin
10	EMLE	EMLE	I	Pd	-	-	-	E20 Emulator control pin (On chip Emulator is used, this pin should be High. When it is not used, it should be Low)
11	PJ5	VSEL_A	I	SW3VPu	I	I	I	Master Volume (Rotary encoder) signal input pin
12	VSS	VSS	-		-	-	-	Ground pin

Pin	Pin Name	Symbol	I/O	Pu/Pd	STBY	STOP	CEC STBY	Function
13	PJ3	VSEL_B	I	SW3VPu	I	I	I	Master volume (Rotary encoder) signal input pin
14	VCL	VCL	I		-	-	-	Smoothing capacitor connection pin
15	VBATT	VBATT	-		-	-	-	Power supply pin
16	NC	NC	I	Pd	-	-	-	NC(Pull down)
17	TRST#/PF4	TRST#/NC(NORMAL)	I/I	Pd	I/I	I/I	I/I	E20 Emulator control pin / When normal operating mode, set to input
18	MD/FINED	MD	I	M3VPu	I	I	I	Pins for setting the operating mode (Select the Boot mode, User boot mode, or Single chip mode)
19	XCIN	XCIN	I	Pd	-	-	-	NC(Pull down)
20	XCOUT	XCOUT	I		-	-	-	NC(open)
21	RES#	RESET	I	M3VPu	-	-	-	Reset signal input pin
22	XTAL/P37	XTAL	I		-	-	-	Pins for a crystal resonator (Xin: 12MHz × 10)
23	VSS	VSS	-		-	-	-	Ground pin
24	EXTAL/P36	EXTAL	-		-	-	-	Pins for a crystal resonator (Xin: 12MHz × 10)
25	VCC	VCC	-		-	-	-	Power supply pin
26	UPSEL/P35(IN)/NMI	DSP_FLAG3	I	DA3VPu	I	I	I	DSP(CS49844A) interrupt signal input pin
27	P34/SCK6/SCK0/IRQ4	BDOWN	I	M3VPu	I	I	I	Detect power down
28	P33/TIOCD0/RXD6/RXD0/IRQ3-DS	RC_IN	I	Pd (S960H/X2700H) M3VPu (SR5015/NR1711)	I	I	I	Remote input
29	P32/TIOCC0/TXD6/TXD0/IRQ2-DS	NC (NR1711(EU/JPI)/ S960H/X2700H)/ FLASHER_IN (NR1711(NA)/ SR5015)	O/I	-/Pd	L/I	L/I	L/I	IR Flasher control signal input (When standby mode, set to interrupt)
30	TMS/PF3	TMS/NC(NORMAL)	I/I	M3VPu	-/I	-/I	I	E20 Emulator control pin/When normal operating mode, set to input.
31	TDI/PF2/RXD1	TDI/RXD_MITSUBISHI	I/O/I	M3VPu	-/-/I	-/-/I	I	E20 Emulator control pin/Mitsubishi writer control pin/ When normal operating mode, set to input.
32	P31/IRQ1-DS	TU_INT (except X2700HDAB/ SR5015DAB) / NC (X2700HDAB/ SR5015DAB)	I	SW3VPu	L	L	L	TUNER control
33	P30/RXD1	TU_SDA (except X2700HDAB/ SR5015DAB) /DAB_Rx (X2700HDAB/ SR5015DAB)	I_O	SW3VPu	L	L	L	TUNER control
34	TCK/FINEC/PF1/SCK1	TCK/NC(NORMAL)	I/I/I	M3VPu	-/-/I	-/-/I	I	E20 Emulator control pin/When normal operating mode, set to input.
35	TD0/TXD1/PF0	TD0/TXD_MITSUBISHI	O/O/I	M3VPu	-/-/I	-/-/I	I	E20 Emulator control pin/Mitsubishi writer control pin/ When normal operating mode, set to input.
36	P27/SCK1	TU_SEN (except X2700HDAB/ SR5015DAB) / NC (X2700HDAB/ SR5015DAB)	O		L	L	L	TUNER control
37	P26/TXD1	TU_SCL (except X2700HDAB/ SR5015DAB) / DAB_Tx (X2700HDAB/ SR5015DAB)	O	SW3VPu	L	L	L	TUNER control
38	P25/RXD3	TU_RST (except X2700HDAB/ SR5015DAB) / DAB_EN (X2700HDAB/ SR5015DAB)	O	Pd	L	L	L	TUNER control

Pin	Pin Name	Symbol	I/O	Pu/Pd	STBY	STOP	CEC STBY	Function
39	VCC	VCC	-		-	-	-	Power supply pin
40	P24/SCK3	NC (S960H/ X2700H) / KILL_IR (NR1711/SR5015)	O		L	L	L	Front IR disable control pin
41	VSS	VSS	-		-	-	-	Ground pin
42	P23/TXD3	E_RTS_MOEI	O	Pd (BCM58305 Internal Pd)	L	L	L	Network module control pin
43	P22/SCK0	E_CTS_MIEO	I	Pd (on board + BCM58305 Internal Pd)	I	I	I	Network module control pin
44	P21/RXD0/IRQ9	E_RXD_MIEO	I	Pd (on board + BCM58305 Internal Pd)	I	L	I	Network module control pin
45	P20/TXD0/IRQ8	E_TXD_MOEI	O	Pd (BCM58305 Internal Pd)	L	L	L	Network module control pin
46	P17/SCK1/TXD3/IRQ7	NET_FACT_RST	O(ODR)	Pu (BCM58305 Internal Pu)	Z	Z	Z	Network module control pin
47	P87/TXD10/TIOCA2	NC (S960H/ X2700H) / RC_OUT (NR1711/ SR5015)	O		L/H	L/L	L/H	Remote code (RC-5) output pin
48	P16/TXD1/RXD3/IRQ6	NET5V_POWER	O		L	L	L	Network power supply control pin
49	P86/RXD10	PRE_Z2_MUTE (X2700H/ NR1711/SR5015) / NC (S960H)	O	Pd	L	L	L	MUTE for ZONE2 preout control pin
50	P15/RXD1/SCK3/IRQ5	AEXP_STB	O		L	L	L	Expander (MC14094) control pin
51	P14/IRQ4	AEXP_OE	O		L	L	L	Expander (MC14094) control pin
52	P13/TXD2/IRQ3	AEXP_CLK	O		L	L	L	Expander (MC14094) control pin
53	P12/RXD2/IRQ2	AEXP_DATA	O		L	L	L	Expander (MC14094) control pin
54	VCC_USB	VCC_USB	-		-	-	-	Power supply pin
55	USB0_DM	USB0_DM	-		-	-	-	NC(open)
56	USB0_DP	USB0_DP	-		-	-	-	NC(open)
57	VSS_USB	VSS_USB	-		-	-	-	Ground pin
58	AVCC_USBA	AVCC_USBA	-		-	-	-	Power supply pin
59	USBA_PREF	USBA_PREF	-		-	-	-	NC(open)
60	AVSS_USBA	AVSS_USBA	-		-	-	-	Ground pin
61	PVSS_USBA	PVSS_USBA	-		-	-	-	Ground pin
62	VSS2_USBA	VSS2_USBA	-		-	-	-	Ground pin
63	USBA_DM	USBA_DM	-		-	-	-	NC(open)
64	USBA_DP	USBA_DP	-		-	-	-	NC(open)
65	VSS1_USBA	VSS1_USBA	-		-	-	-	Ground pin
66	VCC_USBA	VCC_USBA	-		-	-	-	Power supply pin
67	P11/SCK2/IRQ1	CEC_OUT	O		L	L	-	CEC-D control pin
68	P10/IRQ0	CEC_IN	I	STB-3VPu	I	I	I	CEC-D control pin
69	P53	ADV8003_SPI_CS	O	DV-3VPu	L	L	L	GUI (ADV8003) control pin
70	P52/RXD2	ADV8003_SPI_MI	I		L	L	L	GUI (ADV8003) control pin
71	P51/SCK2	ADV8003_SPI_CLK	O		L	L	L	GUI (ADV8003) control pin
72	P50/TXD2	ADV8003_SPI_MO	O	DV-3VPu	L	L	L	GUI (ADV8003) control pin
73	VSS	VSS	-		-	-	-	Ground pin
74	P83/SCK10	IP_RST	O	Pd	I	I	L	Scaler w/GUI (ADV8003) Reset control pin
75	VCC	VCC	-		-	-	-	Power supply pin
76	UB/PC7/TXD8/IRQ14	UB	I	Pd	-	-	-	Pins for setting the boot mode (select the Boot Mode or User Boot Mode)
77	PC6/RXD8/IRQ13	AVSDA	I_O	DV-3VPu	O/L	O/L	L	VIDEO I2C control pin for ADV8003,ADV7180(except X2700H/S960/NR1711)
78	PC5/SCK8	AVSCL	I_O	DV-3VPu	O/L	O/L	L	VIDEO I2C control pin for ADV8003,ADV7180(except X2700H/S960/NR1711)
79	P82/TXD10	DSP_MOSI	O	DA3VPu	L	L	L	DSP (CS49844A) control pin

Pin	Pin Name	Symbol	I/O	Pu/Pd	STBY	STOP	CEC STBY	Function
80	P81/RXD10	DSP_MISO	I	DA3VPu	L	L	L	DSP (CS49844A) control pin
81	P80/SCK10	DSP_CLK	O	DA3VPu	L	L	L	DSP (CS49844A) control pin
82	PC4/SCK5	DSP_CS	O	DA3VPu	L	L	L	DSP (CS49844A) control pin
83	PC3/TXD5	DSP_FLAG0	I	DA3VPu	L	L	L	DSP (CS49844A) interrupt signal input pin
84	P77/TXD11	DSP_RST	O	Pd	L	L	L	DSP (CS49844A) reset control pin
85	P76/RXD11	DSP_BUSY	I	DA3VPu	L	L	L	DSP BUSY signal input
86	PC2/RXD5	DA_POWER	O		L	L	L	Digital audio power supply (DA3.3V, DA1.2V) control pin
87	P75/SCK11	CEC_POWER2	O		L	L	H	CEC standby power control (for CEC Standby Mode 3)
88	P74	SEL_DATA	O		L	L	L	Audio selector control pin for NJU72750
89	PC1/SCK5/IRQ12	DAC_PLD_ERR	I		L	L	L	Detect PLD error (from Audio PLD)
90	VCC	VCC	-		-	-	-	Power supply pin
91	PC0/IRQ14	BRL_HIGH	O		L	L	L	HIGH-B relay control pin
92	VSS	VSS	-		-	-	-	Ground pin
93	P73	H5VOUT_POWER	O		L	L	L	HDMI 5V power supply control pin
94	PB7/TXD9	HSDA	I/O	CE-C3VPu	L	L	L	HDMI I2C control pin for MN864788/MN864807
95	PB6/RXD9	HSCL	I/O	CE-C3VPu	L	L	L	HDMI I2C control pin for MN864788/MN864807
96	PB5/SCK9	SEL_CLK	O		L	L	L	Audio selector control pin for NJU72750
97	PB4	APLD_CS	O	Pd	L	L	L	Audio PLD (5M570ZF256C5N) control pin
98	PB3/SCK4/SCK6	APLD_DATA/DAC_DATA	O	Pd	L	L	L	Audio PLD (5M570ZF256C5N) control pin/DAC (AK4458VN) control pin
99	PB2	APLD_CLK/DAC_CLK	O	Pd	L	L	L	Audio PLD (5M570ZF256C5N) control pin/DAC (AK4458VN) control pin
100	PB1/TXD4/TXD6/IRQ4-DS	DAC_MS	O		L	L	L	DAC (AK4458VN) control pin
101	P72	DAC_RST	O		L	L	L	DAC (AK4458VN) control pin
102	P71	PRE_MUTE	O	Pd	L	L	L	MUTE for preout control pin
103	VCC	VCC	-		-	-	-	Power supply pin
104	PB0/RXD4/RXD6/IRQ12	DA_POWER2	O	Pd	L	L	L	Digital audio power supply (DA1.0V) control pin
105	VSS	VSS	-		-	-	-	Ground pin
106	PA7	ISEL_A	I	SW3VPu	I	I	I	Input selector (Rotary encoder) signal input pin
107	PA6	ISEL_B	I	SW3VPu	I	I	I	Input selector (Rotary encoder) signal input pin
108	PA5	H/PRL	O		L	L	L	Headphones relay control pin
109	PA4/TXD5/SSDA5/IRQ5-DS	DSP_ROM_WRITE	O		L	L	L	DSP ROM writing control (When writing, set to High)
110	PA3/RXD5/SSCL5	MVOL_MUTE	O		L	L	L	Volume control pin (NJU72343)
111	TRDATA3/PG7	MVOL_CLK	O		L	L	L	Volume control pin (NJU72343)
112	PA2/RXD5	MVOL_DATA	O		L	L	L	Volume control pin (NJU72343)
113	TRDATA2/PG6	ZVOL_DATA (X2700H/ NR1711/SR5015) / NC (S960H)	O		L	L	L	ZONE2 volume control pin (BD3812F)
114	PA1/SCK5/IRQ11	ZVOL_CLK (X2700H/ NR1711/ SR5015) / NC (S960H)	O		L	L	L	ZONE2 volume control pin (BD3812F)
115	VCC	VCC	-		-	-	-	Power supply pin
116	TRCLK/PG5	ZVOL_MUTE (X2700H/ NR1711/SR5015) / NC (S960H)	O		L	L	L	ZONE2 volume control pin (BD3812F)
117	VSS	VSS	-		-	-	-	Ground pin
118	PA0	HSV_DET	I	Pd	I	I	I	HDMI IN 5V detect signal pin
119	TRSYNC/PG4	FL_RST	O		L	L	L	FL display control pin
120	P67/IRQ15	FL_CE	O		L	L	L	FL display control pin
121	TRDATA1/PG3	FL_CLK	O		L	L	L	FL display control pin
122	P66	FL_DATA	O		L	L	L	FL display control pin
123	TRDATA0/PG2	NC	O		L	L	L	NC

Pin	Pin Name	Symbol	I/O	Pu/Pd	STBY	STOP	CEC STBY	Function
124	P65	CPU_POWER_2 (S960H/X2700H/ NR1711) / FIL_CTRL (SR5015)	O		L	L	L	CPU power supply control pin(same as 131pin) / Filament Power control pin (for Porthole FLD)
125	PE7/IRQ7/AN105	ASO/DC_DET	I	SW3VPu	I	L	I	Protection detect signal input pin (for ASO and DC) (A/D converter)
126	PE6/IRQ6/AN104	MIC_DET/H/ P_DET	I	SW3VPu	I	L	I	Headphones insert detect pin/Microphone insert detect pin (A/D converter)
127	VCC	VCC	-		-	-	-	Power supply pin
128	P70	TX_FAN	O	Pd	L	L	L	HDMI TX FAN control (ON:"H")
129	VSS	VSS	-		-	-	-	Ground pin
130	PE5/IRQ5/AN103	MAIN_POWER	O	Pd	L	L	L	Power supply control pin
131	PE4/AN102	CPU_POWER	O		L	L	L	CPU power supply control pin
132	PE3/AN101	AIOS4_WAKE- UP	O		L	L	L	Same as NET5V_POWER,NET3.3V_POWER (This port use to control for Network Module standby mode in the future (Low:Deep Standby, High:normal))
133	PE2/RXD12/IRQ7- DS/AN100	AIOS4_STBY_ STATUS	I	-	I	I	I	Not used (This port use to detect for Network Module standby status in the future (Low:normal, High:Deep Standby))
134	PE1/TXD12	THERMAL_H	I	SW3VPu	I	L	I	Protection detect signal input pin (for Heat sink)
135	PE0/SCK12	NET3.3V_ POWER	O		L	L	L	Network power supply control (Net3.3V)
136	P64	NC	O		L	L	L	NC
137	P63	CEC_POWER	O	Pd	L	L	H	CEC standby power supply control (CEC5V, CEC3.3V, CEC1.8V) (When CEC standby mode3, set to Low)
138	P62	DV_POWER1	O		L	L	L	Digital video power supply (DV5V, DV3.3V) control pin
139	P61	DV_POWER2	O	Pd	L	L	L	Digital video power supply (DV1.8V) control pin
140	VSS	VSS	-		-	-	-	Ground pin
141	P60	DIR_DIN	O		L	L	L	DIR (PCM9211) control pin
142	VCC	VCC	-		-	-	-	Power supply pin
143	PD7/IRQ7/AN107	DIR_CE	O		L	L	L	DIR (PCM9211) control pin
144	PG1	DIR_DOUT	I	DA3.3Pu	I	I	I	DIR (PCM9211) control pin
145	PD6/IRQ6/AN106	DIR_CLK	O		L	L	L	DIR (PCM9211) control pin
146	PG0	DIR_RST	O	Pd	L	L	L	DIR (PCM9211) control pin
147	PD5/IRQ5/AN113	TX_HAINT	I	Pd	I	I	I	HDMI Tx (MN864807) audio interrupt signal det
148	PD4/IRQ4/AN112	TX_TEMP	I	-	I	I	I	Temperature detection for HDMI Tx (MN864807) (A/D converter)
149	P97	DE_RST (SR5015) / NC (S960H/ X2700H/NR1711)	O	Pd	L	L	L	Video decoder (ADV7180) reset control pin
150	PD3/IRQ3/AN111	TX_HINT	I	CE- C3VPu	I	I	I	HDMI Tx (MN864807) interrupt signal input pin
151	VSS	VSS	-		-	-	-	Ground pin
152	P96	TX_RST	O	Pd	L	L	H	HDMI Tx (MN864807) reset control pin (When CEC standby mode3, set to reset)
153	VCC	VCC	-		-	-	-	Power supply pin
154	PD2/IRQ2/AN110	SW_HINT	I	CE- C3VPu	I	I	I	HDMI Rx (MN864788) interrupt signal input pin
155	P95	SW_RST	O	Pd	L	L	H	HDMI Rx (MN864788) reset control pin (When CEC standby mode3, set to reset)
156	PD1/IRQ1/AN109	SPRL_C/S	O		L	L	L	Speaker relay control pin
157	P94	SPRL_F	O		L	L	L	Speaker relay control pin
158	PD0/IRQ0/AN108	A_TO_H/NET (SR5015) / NC (S960H/X2700H/ NR1711)	O		L	L	L	Video PLD control pin (Net GUI:High, A to H:Low)
159	P93/AN117	THERMAL_TR_A	I	SW3VPu	I	L	I	Protection detect signal input pin (for power TR)
160	P92/RXD7/AN116	THERMAL_TR_B	I	SW3VPu	I	L	I	Protection detect signal input pin (for power TR)
161	P91/AN115	SPRL_SB	O		L	L	L	Speaker relay control pin
162	VSS	VSS	-		-	-	-	Ground pin
163	P90/TXD7/AN114	TEMP_SENSOR	I	-	I	L	I	Temperature sensor input pin (for SRM)
164	VCC	VCC	-		-	-	-	Power supply pin

Pin	Pin Name	Symbol	I/O	Pu/Pd	STBY	STOP	CEC STBY	Function
165	P47/IRQ15-DS/ AN007	DAB_DET (X2700HDAB/ SR5015DAB) / NC (pull down) (ex- cept X2700HD- AB/SR5015DAB)	I		I	I	I	DAB Model identification input (w/DAB:"H", w/o DAB:"L")
166	P46/IRQ14-DS/ AN006	CURRENT_DET	I	Pd	I	L	I	Current level monitor pin (A/D converter)
167	P45/IRQ13-DS/ AN005	AMPSIGDET	I	Pd	I	L	I	Signal level monitor pin (A/D converter)
168	P44/IRQ12-DS/ AN004	MODE	I		I	I	I	Region setting pin
169	P43/IRQ11-DS/ AN003	KEY3	I	M3VPu	I	I	I	Key control signal input pin (When standby mode, set to interrupt)
170	P42/IRQ10-DS/ AN002	KEY2	I	M3VPu	I	I	I	Key control signal input pin (When standby mode, set to interrupt)
171	P41/IRQ9-DS/ AN001	KEY1	I	M3VPu	I	I	I	Key control signal input pin (When standby mode, set to interrupt)
172	VREFL0	VREFL0	-		-	-	-	Ground pin
173	P40	ADC_RST	O		I	L	I	A/D convertor (AK5358) reset control pin
174	VREFH0	VREFH0	-		-	-	-	Power supply pin
175	AVCC0	AVCC0	-		-	-	-	Power supply pin
176	P07/IRQ15	COMP_DET (SR5015)/NC (S960H/X2700H/ NR1711)	I	M3VPu	I	I	I	Component video signal detect pin

Before Servicing This Unit



Mechanical

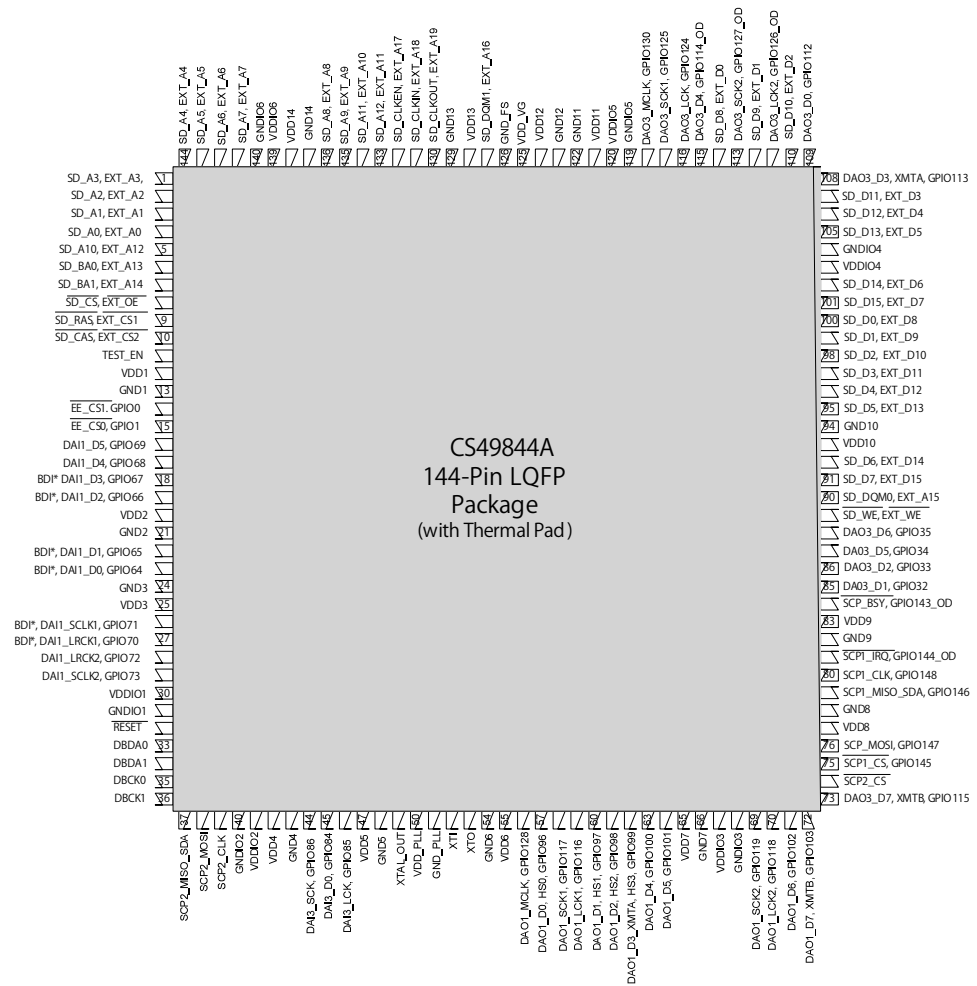
Repair Information

Updating

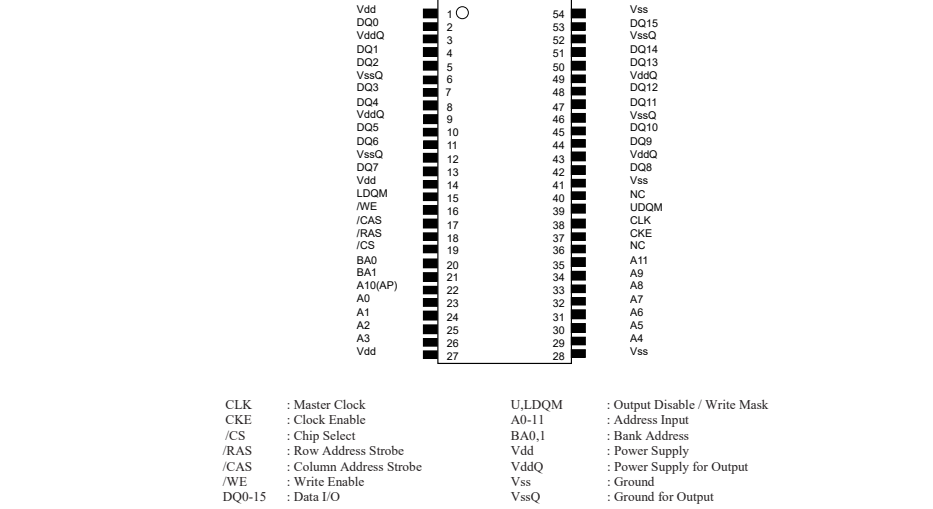
BLOCK DIAGRAM



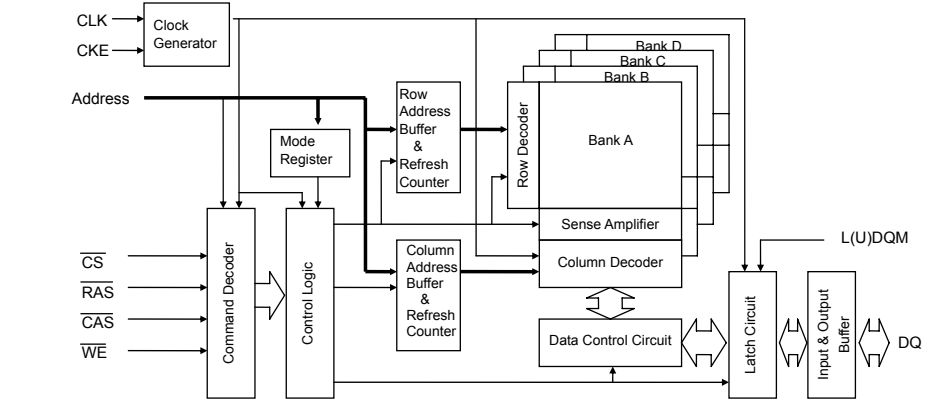
CS49844A (DIGITAL : IC761)



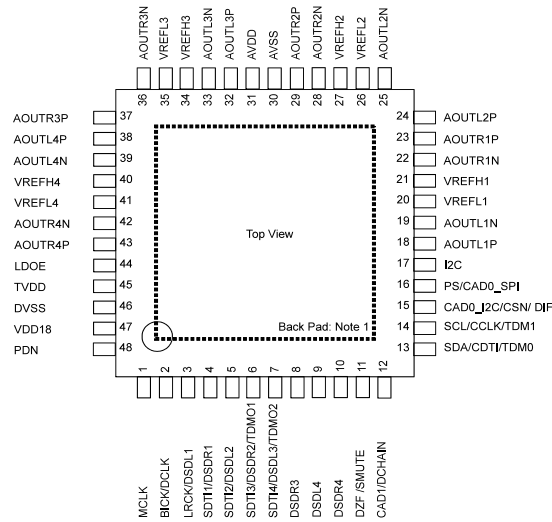
M12L128168A-5TG2S (DIGITAL : IC764)



Block diagram



AK4458VN (DIGITAL : IC771)



Pin Function

No.	Pin Name	I/O	Function	PD State
1	MCLK	I	External Master Clock Input Pin	Hi-Z
2	BICK	I	Audio Serial Data Clock Pin in PCM mode	Hi-z
	DCLK	I	DSD Clock Pin in DSD mode	
3	LRCK	I	Input Channel Clock Pin in PCM mode	Hi-Z
	DSDL1	I	Audio Serial Data Input in DSD mode	
4	SDT1	I	Audio Serial Data Input in PCM mode	Hi-Z
	DSDR1	I	Audio Serial Data Input in DSD mode	
5	SDT2	I	Audio Serial Data Input in PCM mode	Hi-Z
	DSDL2	I	Audio Serial Data Input in DSD mode	
6	SDT3	I	Audio Serial Data Input in PCM mode	100k Ω
	DSDR2	I	Audio Serial Data Input in DSD mode	Pull down
	TDMO1	O	Audio Serial Data Output in Daisy Chain mode	
7	SDT4	I	Audio Serial Data Input in PCM mode	100k Ω
	DSDL3	I	Audio Serial Data Input in DSD mode	Pull down
	TDMO2	O	Audio Serial Data Output in Daisy Chain mode	
8	DSDR3	I	Audio Serial Data Input in DSD mode	Hi-Z
9	DSDL4	I	Audio Serial Data Input in DSD mode	Hi-Z
10	DSDR4	I	Audio Serial Data Input in DSD mode	Hi-Z
11	DZF	O	Zero Input Detect in I2C Bus or 3-wire serial control mode	100k Ω
	SMUTE	I	Soft Mute Pin in Parallel control mode. When this pin is changed to "H", soft mute cycle is initiated. When it is returning to "L", the output mute is released.	Pull down
12	CAD1	I	Chip Address 0 Pin in I C Bus or 3-wire serial control mode	Hi-Z
	DCHAIN	I	Daisy Chain Mode select pin in Parallel control mode.	
13	SDA	I/O	Control Data Pin in I2C Bus serial control mode	
	CDTI	I	Control Data Input Pin in 3-wire serial control mode	Hi-Z
	TDM0	I	TDM Mode select pin in Parallel control mode.	
14	SCL	I	Control Data Clock Pin in I2C Bus serial control mode	Hi-Z
	CCLK	I	Control Data Clock Pin in 3-wire serial control mode	
	TDM1	I	TDM Mode select pin in Parallel control mode.	

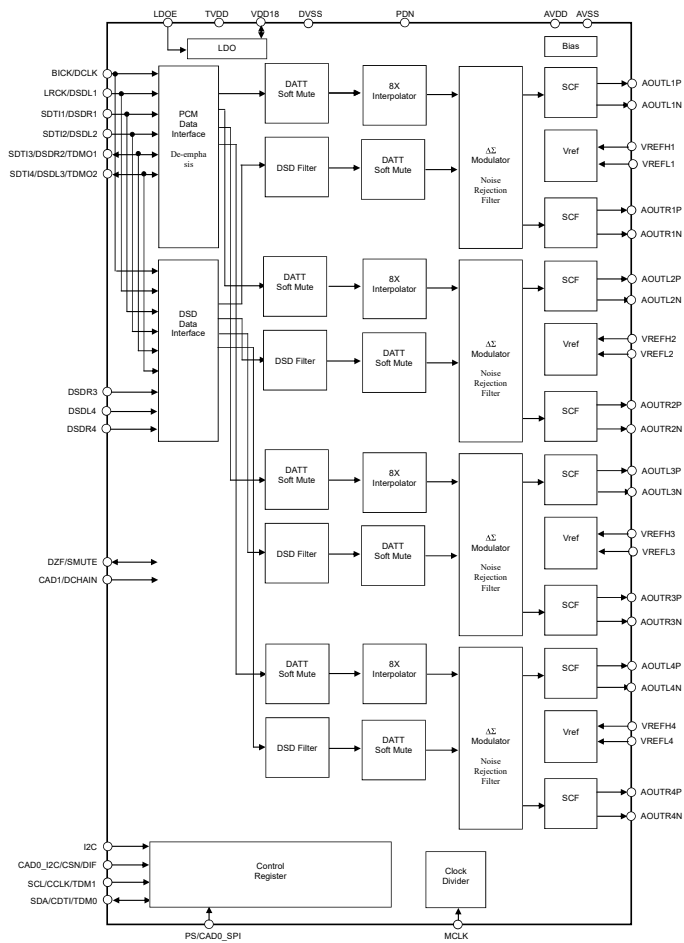
No.	Pin Name	I/O	Function	PD State
15	CAD0_I2C	I	Chip Address 0 Pin in I2C Bus serial control mode	Hi-Z
	CSN	I	Chip Select Pin in 3-wire serial control mode	
	DIF	I	Audio Data Format Select in Parallel control mode. "L": 32-bit MSB, "H": 32-bit I2S	
16	PS	I	(I2C pin = "H") Control Mode Select Pin "L": I2C Bus serial control mode, "H": Parallel control mode.	Hi-Z
	CAD0_SPI	I	(I2C pin = "L") Chip Address 0 Pin in 3-wire serial control mode	
17	I2C	I	Control Mode Select Pin "L": 3-wire serial control mode "H": I2C Bus serial control mode or Parallel control mode.	Hi-Z
18	AOUTL1P	O	Lch Positive Analog Output 1 Pin	Hi-Z
19	AOUTL1N	O	Lch Negative Analog Output 1 Pin	Hi-Z
20	VREFL1	I	Negative Voltage Reference Input Pin, AVSS	Hi-Z
21	VREFH1	I	Positive Voltage Reference Input Pin, AVDD	Hi-Z
22	AOUTR1N	O	Rch Negative Analog Output 1 Pin	Hi-Z
23	AOUTR1P	O	Rch Positive Analog Output 1 Pin	Hi-Z
24	AOUTL2P	O	Lch Positive Analog Output 2 Pin	Hi-Z
25	AOUTL2N	O	Lch Negative Analog Output 2 Pin	Hi-Z
26	VREFL2	I	Negative Voltage Reference Input Pin, AVSS	Hi-Z
27	VREFH2	I	Positive Voltage Reference Input Pin, AVDD	Hi-Z
28	AOUTR2N	O	Rch Negative Analog Output 2 Pin	Hi-Z
29	AOUTR2P	O	Rch Positive Analog Output 2 Pin	Hi-Z
30	AVSS	-	Analog Ground Pin	—
31	AVDD	-	Analog Power Supply Pin, 3.0V-5.5V	—
32	AOUTL3P	O	Lch Positive Analog Output 3 Pin	Hi-Z
33	AOUTL3N	O	Lch Negative Analog Output 3 Pin	Hi-Z
34	VREFH3	I	Positive Voltage Reference Input Pin, AVDD	Hi-Z
35	VREFL3	I	Negative Voltage Reference Input Pin, AVSS	Hi-Z
36	AOUTR3N	O	Rch Negative Analog Output 3 Pin	Hi-Z
37	AOUTR3P	O	Rch Positive Analog Output 3Pin	Hi-Z
38	AOUTL4P	O	Lch Positive Analog Output 4 Pin	Hi-Z
39	AOUTL4N	O	Lch Negative Analog Output 4 Pin	Hi-Z
40	VREFH4	I	Positive Voltage Reference Input Pin, AVDD	Hi-Z
41	VREFL4	I	Negative Voltage Reference Input Pin, AVSS	Hi-Z
42	AOUTR4N	O	Rch Negative Analog Output 4 Pin	Hi-Z
43	AOUTR4P	O	Rch Positive Analog Output 4 Pin	Hi-Z
44	LDOE	I	Internal LDO Enable Pin. "L": Disable, "H": Enable	Hi-Z
45	TVDD	-	Digital Power Supply Pin, 3.0V-3.6V	—
46	DVSS	-	Digital Ground Pin	—
47	VDD18	O	LDO Output Pin (LDOE pin = "H") This pin should be connected to DVSS with 1.0 μ F.	(Note 4)
		I	1.8V Power Input Pin (LDOE pin = "L")	
48	PDN	I	Power-Down & Reset Pin When this pin is "L", the AK4458 is powered-down and the control registers are reset to default state.	Hi-Z

Note 2. All input pins except internal pull-up/down pins should not be left floating.

Note 3. PCM mode and DSD mode are controlled by registers. Daisy Chain mode is controlled by both registers and pins.

Note 4. This pin outputs DVSS when the LDOE pin = "H" and Hi-z when the LDOE pin = "L".

FUNCTIONAL BLOCK DIAGRAM



PCM5100A (DIGITAL : IC743, IC744)

PCM510X (top view)

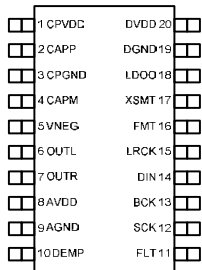


Table 2. TERMINAL FUNCTIONS, PCM510x

TERMINAL NAME	NO.	I/O	DESCRIPTION
CPVDD	1	-	Charge pump power supply, 3.3V
CAPP	2	O	Charge pump flying capacitor terminal for positive rail
CPGND	3	-	Charge pump ground
CAPM	4	O	Charge pump flying capacitor terminal for negative rail
VNEG	5	O	Negative charge pump rail terminal for decoupling, -3.3V
OUTL	6	O	Analog output from DAC left channel
OUTR	7	O	Analog output from DAC right channel
AVDD	8	-	Analog power supply, 3.3V
AGND	9	-	Analog ground
DEMP	10	I	De-emphasis control for 44.1kHz sampling rate ⁽¹⁾ : Off (Low) / On (High)
FLT	11	I	Filter select : Normal latency (Low) / Low latency (High)
SCK	12	I	System clock input
BCK	13	I	Audio data bit clock input
DIN	14	I	Audio data input
LRCK	15	I	Audio data word clock input
FMT	16	I	Audio format selection : I ² S (Low) / Left justified (High)
XSMT	17	I	Soft mute control : Soft mute (Low) / soft un-mute (High)
LDOO	18	-	Internal logic supply rail terminal for decoupling
DGND	19	-	Digital ground
DVDD	20	-	Digital power supply, 3.3V

Block Diagram

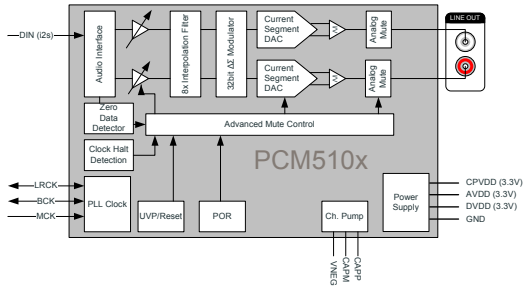
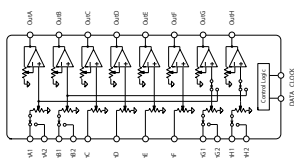


Figure 1. PCM510x Functional Block Diagram

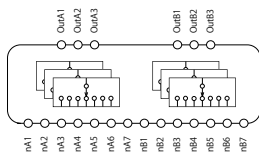
NJU72343 (INPUT : IC513)



Pin Function

No.	Symbol	Function	No.	Symbol	Function
1	AREF	Analog reference potential terminal	17	DATA	IC control data input
2	ADR	Address selection terminal	18	CLOCK	IC control clock input
3	InA2	Ach input2	19	VDDOUT	Digital power supply output terminal
4	InB2	Bch input2	20	AREF	Analog reference potential terminal
5	InA1	Ach input1	21	OutH	Hch output
6	InB1	Bch input1	22	OutG	Gch output
7	InC	Cch input	23	OutF	Fch output
8	InD	Dch input	24	OutE	Ech output
9	InE	Ech input	25	OutD	Dch output
10	InF	Fch input	26	OutC	Cch output
11	InG1	Gch input1	27	OutB	Bch output
12	InH1	Hch input1	28	OutA	Ach output
13	InG2	Cch input2	29	AREF	Analog reference potential terminal
14	InH2	Dch input2	30	V-	negative power supply terminal
15	MUTE	External mute control terminal	31	AREF	Analog reference potential terminal
16	REF	Digital reference potential terminal	32	V+	positive power supply terminal

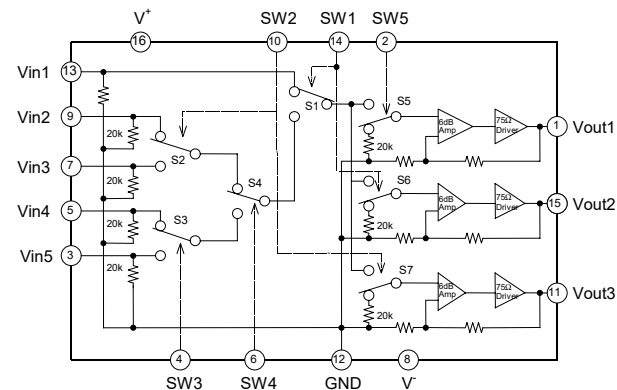
NJU72750A (INPUT : IC511, IC512)



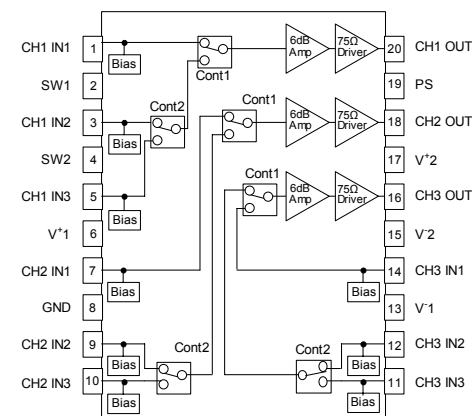
Pin Function

No.	Symbol	Function	No.	Symbol	Function
1	V+	positive power supply terminal	17	DATA	IC control data input
2	InA1	Ach input1	18	CLOCK	IC control clock input
3	InB1	Bch input1	19	NC	-
4	InA2	Ach input2	20	NC	-
5	InB2	Bch input2	21	OutB3	Bch output3
6	InA3	Ach input3	22	OutA3	Ach output3
7	InB3	Bch input3	23	REF_B	Bch reference potential terminal
8	InA4	Ach input4	24	OutB2	Bch output2
9	InB4	Bch input4	25	OutA2	Ach output2
10	InA5	Ach input5	26	REF_A	Ach reference potential terminal
11	InB5	Bch input5	27	OutB1	Bch output1
12	InA6	Ach input6	28	OutA1	Ach output1
13	InB6	Bch input6	29	NC	-
14	InA7	Ach input7	30	ADR0	Address selection pin 0
15	InB7	Bch input7	31	ADR1	Address selection pin 1
16	REF	Reference potential terminal for BIAS	32	V-	negative power supply terminal

NJM2595MTE1 (VIDEO : IC111)



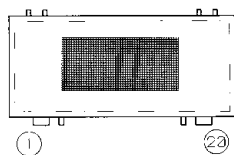
NJM2586AVC3(VIDEO : IC121)



SSOP20-C3

2. FL DISPLAY

FFLD (GP1261AI) (FRONT : FL601)



PIN CONNECTION

CONNECTION	PIN NO.
F-	1
NP	2
NC	3
NC	4
NC	5
NC	6
TEST	7
INT	8
RESET	9
DIO	10
CLK	11
CS	12
OSC	13
NC	14
VH	15
PGND	16
LGND	17
VDD	18
NP	19
F+	20

NOTE

- 1) F-, F+ ----Filament
- 2) NP -----No pin
- 3) DL -----Datum Line
- 4) VDD -----Logic Voltage Supply pin
- 5) LGND ----Logic GND pin
- 6) PGND ----Power GND pin
- 7) VH -----High Voltage Supply pin
- 8) OSC ----Pin for self-oscillation
- 9) CS -----Chip Select Input pin
- 10) CLK -----Shift Register Clock
- 11) DA ----Serial Data Input
- 12) RESET --Reset Input
- 13) INT -----Int pin
- 14) TSA, B --Test pin
- 15) Solder composition is Sn-3Ag-0.5Cu.
- 16) NC -----No connection
(NC pin should be electrically open on the PC board)

PATTERN DETAIL

T1		T2			T3			-	-	-	T15			T16			T17
1-1	2-1	3-1	4-1	5-1	6-1	7-1	8-1	-	-	-	42-1	43-1	44-1	45-1	46-1	47-1	48-1
1-2	2-2	3-2	4-2	5-2	6-2	7-2	8-2	-	-	-	42-2	43-2	44-2	45-2	46-2	47-2	48-2
1-3	2-3	3-3	4-3	5-3	6-3	7-3	8-3	-	-	-	42-3	43-3	44-3	45-3	46-3	47-3	48-3
1-4	2-4	3-4	4-4	5-4	6-4	7-4	8-4	-	-	-	42-4	43-4	44-4	45-4	46-4	47-4	48-4
1-5	2-5	3-5	4-5	5-5	6-5	7-5	8-5	-	-	-	42-5	43-5	44-5	45-5	46-5	47-5	48-5
1-6	2-6	3-6	4-6	5-6	6-6	7-6	8-6	-	-	-	42-6	43-6	44-6	45-6	46-6	47-6	48-6
1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	-	-	-	42-7	43-7	44-7	45-7	46-7	47-7	48-7
1-8	2-8	3-8	4-8	5-8	6-8	7-8	8-8	-	-	-	42-8	43-8	44-8	45-8	46-8	47-8	48-8
1-9	2-9	3-9	4-9	5-9	6-9	7-9	8-9	-	-	-	42-9	43-9	44-9	45-9	46-9	47-9	48-9
1-10	2-10	3-10	4-10	5-10	6-10	7-10	8-10	-	-	-	42-10	43-10	44-10	45-10	46-10	47-10	48-10
1-11	2-11	3-11	4-11	5-11	6-11	7-11	8-11	-	-	-	42-11	43-11	44-11	45-11	46-11	47-11	48-11
1-12	2-12	3-12	4-12	5-12	6-12	7-12	8-12	-	-	-	42-12	43-12	44-12	45-12	46-12	47-12	48-12
1-13	2-13	3-13	4-13	5-13	6-13	7-13	8-13	-	-	-	42-13	43-13	44-13	45-13	46-13	47-13	48-13
1-14	2-14	3-14	4-14	5-14	6-14	7-14	8-14	-	-	-	42-14	43-14	44-14	45-14	46-14	47-14	48-14
1-15	2-15	3-15	4-15	5-15	6-15	7-15	8-15	-	-	-	42-15	43-15	44-15	45-15	46-15	47-15	48-15
1-16	2-16	3-16	4-16	5-16	6-16	7-16	8-16	-	-	-	42-16	43-16	44-16	45-16	46-16	47-16	48-16
1-17	2-17	3-17	4-17	5-17	6-17	7-17	8-17	-	-	-	42-17	43-17	44-17	45-17	46-17	47-17	48-17
1-18	2-18	3-18	4-18	5-18	6-18	7-18	8-18	-	-	-	42-18	43-18	44-18	45-18	46-18	47-18	48-18
1-19	2-19	3-19	4-19	5-19	6-19	7-19	8-19	-	-	-	42-19	43-19	44-19	45-19	46-19	47-19	48-19
1-20	2-20	3-20	4-20	5-20	6-20	7-20	8-20	-	-	-	42-20	43-20	44-20	45-20	46-20	47-20	48-20
1-21	2-21	3-21	4-21	5-21	6-21	7-21	8-21	-	-	-	42-21	43-21	44-21	45-21	46-21	47-21	48-21
1-22	2-22	3-22	4-22	5-22	6-22	7-22	8-22	-	-	-	42-22	43-22	44-22	45-22	46-22	47-22	48-22
1-23	2-23	3-23	4-23	5-23	6-23	7-23	8-23	-	-	-	42-23	43-23	44-23	45-23	46-23	47-23	48-23
T1		T2			T3			-	-	-	T15			T16			T17

ANODE CONNECTION

	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	13G	14G	15G	16G	17G(AD3)	18G(AD4)
D0	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	S9	-
D1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	3d	-
D2	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	2d	-
D3	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	3e	-
D4	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	2e	-
D5	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	3c	-
D6	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2c	-
D7	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3g	-
D8	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	2g	-
D9	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	3f	-
D10	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	2f	-
D11	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	3b	-
D12	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	2b	-
D13	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	3a	-
D14	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	2a	-
D15	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	Dp	-
D16	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	dB	-
D17	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	1d	-
D18	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	1e	-
D19	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	1c	-
D20	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1g	-
D21	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	1f	-
D22	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	1b	-
D23	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	1a	AUTO
D24	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	S1	HDMI
D25	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	S2	DIGITAL
D26	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	S3	ANALOG
D27	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	S4	S.BACK
D28	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	S5	DI
D29	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	S6	dts
D30	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	S7	AUDYSSEY
D31	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	S8	TUNED
D32	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	MUTE	STEREO
D33	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	PCM	RDS
D34	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	Z2	SLEEP
AD1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	DIG.	-
AD2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ANA.	-

Before Servicing
This Unit

Electrical

Mechanical

Repair Information

Updating

3. Remote Code Table

Marantz Remote Command Chart

Item: AV Pre/Processor, AV Receiver,

* Note: In select set up of the chart, Function description is located right end.

Zone		Command Name		Remote Code	RC-5 / RC-5 Ext. Format	For search	For AMX Extension Command(7)	AV Pre Processor	AV Receiver	AV Receiver	Stm Line AV Receiver	FUNCTION
Main Zone	Power	POWER ON/OFF	16 12	16 12	RCRC1601012							Power On (Standby) (Toggle)
Volume	Control	POWER ON	16 12 01	16 12 01	RCRC160101201							Power On
		POWER OFF	16 12 02	16 12 02	RCRC160101202							Power Off
Volume	Control	SYSTEM POWER OFF	16 12 13	16 12 13	RCRC1601213							Turn MAIN Zone and MULTI Zone to standby
		VOL +	16 16	16 16	RCRC1601016							Master volume up & 1 octave
Volume	Control	VOL -	16 17	16 17	RCRC1601017							Master volume down & 1 octave
		Direct VOLUME	16 111 00-63	16 111 00-63	RCRC1601111							Storable Volume level 0-63
Speaker	Control	Audio MUTE	16 13 00	16 13 00	RCRC1601100							Mute
		Audio MUTE OFF	16 13 01	16 13 01	RCRC1601101							Mute
Speaker	Control	Audio MUTE (Toggle)	16 13	16 13	RCRC1601013							Audio Mute (Toggle)
		SPEAKER Sel.	16 29	16 29	RCRC1601029							Select Speaker (SPKR-A+ SPKR-B+ SPKR-A+B+ SPKR-Off)
Speaker	Control	SPEAKER ON/OFF	16 38	16 38	RCRC1601038							Speaker On/Off Toggle
		SPEAKER PRESET Sel. (Toggle)	16 38	16 38	RCRC1601038							Select Speaker Preset (Preset 1= Preset 2=)
Speaker	Control	SPEAKER PRESET 1	16 38 11	16 38 11	RCRC1603011							Speaker Preset 1
		SPEAKER PRESET 2	16 38 12	16 38 12	RCRC1603012							Speaker Preset 2
Menu	Control	OSD Menu On	16 82	16 82	RCRC1600802							OSD Menu On
		MENU	16 82 00	16 82 00	RCRC1600800							Menu on/off
Menu	Control	OPTION	16 82 11	16 82 11	RCRC1600811							Option Menu on/off
		EXIT MENU	16 83	16 83	RCRC1600803							Exit Menu OSD menu
Menu	Control	ENTER (OK)	16 87	16 87	RCRC1600807							Enter
		Return	16 87 04	16 87 04	RCRC1600804							Return
Menu	Control	CURSOR UP	16 81	16 81	RCRC1600801							Cursor Up
		CURSOR DOWN	16 81	16 81	RCRC1600801							Cursor Down
Menu	Control	CURSOR LEFT	16 85	16 85	RCRC1600805							Cursor Left
		CURSOR RIGHT	16 85	16 85	RCRC1600805							Cursor Right
Display / Video	Control	Dimmer (Display)	16 15 00	16 15 00	RCRC1601500							Dimmer (display) > Surround Auto-Off > 1st Dimmer
		Info.	16 15 08	16 15 08	RCRC1601508							Information On/Off
Display / Video	Control	OSD Info.	16 15 09	16 15 09	RCRC1601509							OSD General Information On/Off
		Status	16 15 07	16 15 07	RCRC1601507							Display On status
Display / Video	Control	Video Select	16 15 50	16 15 50	RCRC1601550							Move to Video Select mode
		VIDEO OFF (V OFF)	16 13 02	16 13 02	RCRC1601302							Video output Off/On toggle
Input Source	Control	INPUT NEXT	16 00 13	16 00 13	RCRC1600013							Next input
		INPUT BACK	16 00 14	16 00 14	RCRC1600014							Switch input backward
Input Source	Control	TUNER (TUNER FM)	17 03	17 03	RCRC17003							Select Tuner
		FM (FM) (FM) (FM)	16 02 00	16 02 00	RCRC1600200							Select FM input
Input Source	Control	Blue-ray (BD) (BD) (BD)	16 02 00	16 02 00	RCRC1600200							Select Blue-ray input
		Blue-ray DVD	16 02 04	16 02 04	RCRC1600204							Select Blue-ray DVD input
Input Source	Control	TV AUDIO	16 00 00	16 00 00	RCRC1600000							Select TV TV AUDIO input
		DVD	16 00 10	16 00 10	RCRC1600010							Select DVD input
Input Source	Control	VIDEO PLAYER	16 00 03	16 00 03	RCRC1600003							Select VCR/MEDIA PLAYER input
		CRUISE	16 00 03	16 00 03	RCRC1600003							Select VCR/MEDIA input
Input Source	Control	AUX1 (AUX1)	16 00 06	16 00 06	RCRC1600006							Select AUX1(AUX1) or Front AUX input

Input Source	Control	8K (AUX2)	16 00 07	16 00 07	RCRC1600007							Select 8K (AUX2) input
		AUX2(Additional Source)	16 00 08	16 00 08	RCRC1600008							Select AUX2 (Additional Source)
Input Source	Control	AUX3(Additional Source)	16 02 01	16 02 01	RCRC1600201							Select AUX3(Additional Source)
		AUX4(Additional Source)	16 02 02	16 02 02	RCRC1600202							Select AUX4(Additional Source)
Input Source	Control	AUX5(Additional Source)	16 02 03	16 02 03	RCRC1600203							Select AUX5(Additional Source)
		Bluetooth	16 02 16	16 02 16	RCRC1600216							Select Bluetooth input
Input Source	Control	GAME	16 00 02	16 00 02	RCRC1600002							Select Game input
		PHONO	16 00 08	16 00 08	RCRC1600008							Select Game input
Input Source	Control	USB	24 03 01	24 03 01	RCRC2403011							Select PHONO input
		HEOS Music (NETWORK)	24 03 11	24 03 11	RCRC2403011							Select USB input directly
Input Source	Control	Internet Radio Select	27 03 20	27 03 20	RCRC2703200							Select HEOS Music
		Internet Radio Select	27 03 29	27 03 29	RCRC2703209							Select Internet Radio directly
Input Source	Control	Media Server Select	27 03 24	27 03 24	RCRC2703204							Select NetUSB(NETWORK) input and Media Server directly
		Media Server Select	27 03 28	27 03 28	RCRC2703208							Select NetUSB(NETWORK) input and Media Server directly
Input Source	Control	HEOS MUSIC	27 03 10	27 03 10	RCRC2703010							Select HEOS Music
		M-XPort	29 03 01	29 03 01	RCRC2903001							Select HEOS Music
Input Source	Control	7.1 (6.1)CH. Input On	16 01 12	16 01 12	RCRC1600112							Select M-XPort input
		Smart Select1	16 02 21	16 02 21	RCRC1600221							7.1 channel input On
Input Source	Control	Smart Select2	16 02 22	16 02 22	RCRC1600222							Smart Select 1
		Smart Select3	16 02 23	16 02 23	RCRC1600223							Smart Select 2
Input Source	Control	Smart Select4	16 02 24	16 02 24	RCRC1600224							Smart Select 3
		Smart Select5	16 02 25	16 02 25	RCRC1600225							Smart Select 4
Input Source	Control	Input Mode Select	16 01 01	16 01 01	RCRC1600101							Change the input mode (Auto-HDMI, Digital-Analog, Ext-In-Auto)
		INPUT MODE-AUTO	16 01 15	16 01 15	RCRC1600115							Input Mode Auto
Input Source	Control	INPUT MODE-DIGITAL	16 01 16	16 01 16	RCRC1600116							Input Mode Input HDMI
		INPUT MODE-DIGITAL	16 01 17	16 01 17	RCRC1600117							Select Mode Input HDMI
Input Source	Control	INPUT MODE-ANALOG	16 01 18	16 01 18	RCRC1600118							Input Mode Input Analog
		Bilingual (Audio Channel)	16 01 14	16 01 14	RCRC1600114							Select Bilingual (Main > Sub > Main+Sub)
Input Source	Control	LIP SYNC (Audio Delay)	16 10 01	16 10 01	RCRC1601001							Lip Sync Mode
		Resolution (HDMI)	16 15 10	16 15 10	RCRC1601510							Resolution for HDMI outputs-480p/576p/720p/1080i/1080p/2k/4k
Input Source	Control	Resolution (HDMI)	16 15 11	16 15 11	RCRC1601511							Resolution for HDMI outputs-480p/576p/720p/1080i/1080p/2k/4k
		Vertical Stretch On	16 15 12	16 15 12	RCRC1601512							Vertical Stretch On
Input Source	Control	Vertical Stretch Off	16 15 13	16 15 13	RCRC1601513							Vertical Stretch Off
		HDMI Audio Output Select (Toggle)	16 84 00	16 84 00	RCRC1608400							To select AVR decompensate through the audio signal of HDMI
Input Source	Control	HDMI Audio Output: Enable (Decode by AVR)	16 84 01	16 84 01	RCRC1608401							AVR decode the audio signal of HDMI
		HDMI Audio Output: Through (Decode by TV)	16 84 02	16 84 02	RCRC1608402							AVR pass through the audio signal of HDMI to TV
Input Source	Control	COMPONENT 2 for MAIN	16 84 31	16 84 31	RCRC1608431							Component 2 not switch to Main zone
		COMPONENT 2 for MULTI-A	16 84 32	16 84 32	RCRC1608432							Component 2 not switch to ZONE2
Input Source	Control	Video Mode (Toggle)	16 84 30	16 84 30	RCRC1608430							To select Video Mode (Auto/Game/Video/ByPass)
		Video Mode: Auto	16 84 01	16 84 01	RCRC1608401							Select Video Mode > Auto
Input Source	Control	Video Mode: Movie	16 84 02	16 84 02	RCRC1608402							Select Video Mode > Movie
		Video Mode: Game	16 84 03	16 84 03	RCRC1608403							Select Video Mode > Game
Input Source	Control	Video Mode: Bypass	16 84 04	16 84 04	RCRC1608404							Select Video Mode > Bypass
		HDMI Output Select (Toggle)	16 120 00	16 120 00	RCRC1612000							HDMI Output select 1 (Toggle)
Input Source	Control	HDMI Out-1	16 120 01	16 120 01	RCRC1612001							HDMI Output select 1
		HDMI Out-2	16 120 02	16 120 02	RCRC1612002							HDMI Output select 2
Input Source	Control	HDMI Out-Auto(Dual)	16 120 03	16 120 03	RCRC1612003							HDMI Output Auto Select
		CEC	16 120 04	16 120 04	RCRC1612004							HDMI Control/CEC

Surround Mode	HDMI Control (CEC) OFF	16 34 00	16 34 00	RCRC1603400	X	X	X	X	X	X	Change Surround mode (Toggle to next mode)
	SURROUND MODE (Toggle/Next)	16 37	16 37	RCRC16037							Change Surround mode (Toggle to next mode)
Surround Mode	HDMI Control (Back)	16 34 15	16 34 15	RCRC1603415							Change Surround mode (Back to previous mode)
	MOVIE SURROUND	16 37 20	16 37 20	RCRC1603720							Change Surround mode (MOVIE)
Surround Mode	MUSIC SURROUND	16 37 33	16 37 33	RCRC1603733							Change Surround mode (MUSIC)
	GAME SURROUND	16 34 16	16 34 16	RCRC1603416							Change Surround mode (GAME)
Surround Mode	AUTO	16 37 20	16 37 20	RCRC1603720							Select AUTO Surround
	STEREO	16 37 30	16 37 30	RCRC1603730							Select STEREO mode
Surround Mode	MONO	16 37 37	16 37 37	RCRC1603737							Select MONO mode
	MULTI-CH Stereo	16 37 37	16 37 37	RCRC1603737							Select Multi Ch Stereo
THX	THX	16 64 13	16 64 13	RCRC1606413							Select THX mode
	THX CINEMA	16 37 38	16 37 38	RCRC1603738							Select THX mode (THX Surround EX Off)
THX	THX SURROUND EX	16 37 38	16 37 38	RCRC1603738							Select THX Surround EX mode
	THX ULTRA 2	16 64 07	16 64 07	RCRC1606407							Select THX Ultra 2 mode
THX	THX SELECT 2	16 64 07	16 64 07	RCRC1606407							Select THX Select 2 mode
	THX 5.1 MUSIC	16 64 04	16 64 04	RCRC1606404							Select THX 5.1 Music mode
THX	THX GAMES	16 64 14	16 64 14	RCRC1606414							Select THX Game mode
	NEURAL	16 64 16	16 64 16	RCRC1606416							Select Neural Surround
Dolby	DOLBY	16 37 41	16 37 41	RCRC1603741							Select Dolby mode (PL2 non-sensuous/PL2)
	PRO LOGIC	16 37 00	16 37 00	RCRC1603700							Select Pro Logic
Dolby	PL (Ext) Movie / PL II Movie	16 64 00	16 64 00	RCRC1606400							Select Pro Logic (PL2) movie mode
	PL (Ext) Music / PL II Music	16 64 01	16 64 01	RCRC1606401							Select Pro Logic (PL2) music mode
Dolby	PL II Game	16 64 12	16 64 12	RCRC1606412							Select Pro Logic to game mode
	PL II	16 64 17	16 64 17	RCRC1606417							Select Pro Logic to movie
Dolby	DOLBY HEADPHONE	16 37 69	16 37 69	RCRC1603769							Select Dolby Headphone
	EXES	16 37 61	16 37 61	RCRC1603761							Select Dolby Ex or DTS-ES
Dolby	Dolby Atmos ON/OFF	16 64 25	16 64 25	RCRC1606425	X	X	X	X	X	X	Dolby Atmos ON/OFF
	DTS Mode	16 64 08	16 64 08	RCRC1606408							Select DTS mode(DTS-Neel cinema=Neel music)
DTS	DTS	16 37 46	16 37 46	RCRC1603746							Select DTS
	DTS ES	16 64 03	16 64 03	RCRC1606403							Select DTS-ES
DTS	DTS Neel Cinema	16 64 05	16 64 05	RCRC1606405							Select Neo 8 Cinema
	DTS Neel Music	16 64 06	16 64 06	RCRC1606406							Select Neo 8 Music
DTS	DTS NEO:X ON/OFF	16 64 12	16 64 12	RCRC1606412							DTS Neo X ON/OFF
	VIRTUAL	16 37 51	16 37 51	RCRC1603751							Select VIRTUAL ON
Decoder Mode	Decoder Mode	16 01 29	16 01 29	RCRC1600129							Select 2 Channel mode (Auto PCM C75)
	DSP Mode	16 37 63	16 37 63	RCRC1603763							Toggle the DSP Surround mode Select Pure Direct mode
SOURCE Mode	SOURCE(Pure) DIRECT (Toggle)	16 34	16 34	RCRC16034	X	X	X	X	X	X	Source Direct (Pure Direct) mode ON/OFF
	PURE DIRECT (Toggle)	16 34 01	16 34 01	RCRC1603401							Pure Direct mode ON/OFF
Direct Mode	Direct Mode	16 34 02	16 34 02	RCRC1603402							Select Pure Direct mode
	Pure Direct	16 34 03	16 34 03	RCRC1603403	X	X	X	X	X	X	Select Pure Direct mode
All Zone Stereo ON	All Zone Stereo ON/OFF	16 100 00	16 100 00	RCRC1601000	X	X	X	X	X	X	All Zone Stereo ON/OFF
	All Zone Stereo ON	16 100 01	16 100 01	RCRC1601001	X	X	X	X	X	X	All Zone Stereo On
All Zone Stereo OFF	All Zone Stereo OFF	16 100 02	16 100 02	RCRC1601002	X	X	X	X	X	X	All Zone Stereo Off
	Cinema EQ (Hr-EQ)(Toggle)	16 64 11	16 64 11	RCRC1606411	X	Cinema EQ	X	Cinema EQ	X	Cinema EQ	Cinema EQ ON/OFF
Loudness Management	Loudness Management ON/OFF (Toggle)	16 64 19	16 64 19	RCRC1606419							Loudness Management ON/OFF
	M-AAX	16 22 04	16 22 04	RCRC1602204	X	X	X	X	X	X	M-AAX Mode High
M-AAX OFF	M-AAX OFF	16 22 06	16 22 06	RCRC1602206	X	X	X	X	X	X	M-AAX Mode Off
	M-AAX HIGH	16 22 07	16 22 07	RCRC1602207	X	X	X	X	X	X	M-AAX Mode High
M-AAX LOW	M-AAX LOW	16 22 08	16 22 08	RCRC1602208	X	X	X	X	X	X	M-AAX Mode Low
	M-AAX MID	16 22 09	16 22 09	RCRC1602209	X	X	X	X	X	X	M-AAX Mode Mid
Bass Sync	Bass Sync Up	16 22 12	16 22 12	RCRC1602212							Bass Sync Up
	Bass Sync DOWN	16 22 12	16 22 12	RCRC1602212							Bass Sync Down

[illegible]

Smart Select	BK (AUX2)	16	29	21	16:20:21	RCRCS1602021	X	X	X	X	Turn on and select BK (AUX2)
	AUX6(Additional Source)	16	29	24	16:20:24	RCRCS1602024	—	—	—	—	Turn on and select AUX3
	AUX6(Additional Source)	16	29	25	16:20:25	RCRCS1602025	—	—	—	—	Turn on and select AUX4
	AUX6(Additional Source)	16	29	26	16:20:26	RCRCS1602026	—	—	—	—	Turn on and select AUX5
	AUX6(Additional Source)	16	29	27	16:20:27	RCRCS1602027	—	—	—	—	Turn on and select AUX6
	AUX7(Additional Source)	16	29	28	16:20:28	RCRCS1602028	—	—	—	—	Turn on and select AUX7
	TUNER (TUNER 1 FM)	16	29	29	16:20:29	RCRCS1602029	X	X	X	X	Turn on and select TUNER1
	HEOS Music(NETWORK)	16	29	23	16:20:23	RCRCS1602023	X (HEOS Music)	X (HEOS Music)	X (HEOS Music)	X (HEOS Music)	Turn on and select HEOS Music
	USB	16	30	11	16:30:11	RCRCS1603011	X (USB)	X (USB)	X (USB)	X (USB)	Turn on and select USB input directly
	Blu-ray/DVD	16	30	12	16:30:12	RCRCS1603012	—	—	—	—	Turn on and select Blu-ray/DVD input
Control	Blu-ray/DVD	16	30	29	19:29:29	RCRCS1602929	—	—	—	—	Turn on and Blu-ray DVD input
	MPXport	16	30	13	16:30:13	RCRCS1603013	—	—	—	—	Turn on and select MPX-Port
	Game	16	30	14	16:30:14	RCRCS1603014	—	—	—	—	Turn on and select Game
	PHONO	16	30	15	16:30:15	RCRCS1603015	—	—	—	—	Turn on and select Phono
	Bluetooth	16	30	16	16:30:16	RCRCS1603016	—	—	—	—	Turn on and select Bluetooth
	Internet Radio	16	30	29	27:29:29	RCRCS1602929	—	—	—	—	Turn on and select Radio as Zone 2 source
	SIRIUS XM 4	17	92	29	27:92:29	RCRCS1709229	—	—	—	—	Turn on and select Sirius XM as Zone 2 source
	Media Server	16	30	24	17:30:24	RCRCS1709224	—	—	—	—	Turn on and select Media Server as Zone 2 source
	2-Source (4)	17	92	26	27:92:26	RCRCS1709226	—	—	—	—	Turn on and select 2-Source as Zone 2 source
	Smart Select1	16	30	21	16:30:21	RCRCS1603021	X	X	X	X	Zone 2 Smart Select 1
Tuner	Smart Select2	16	30	22	16:30:22	RCRCS1603022	X	X	X	X	Zone 2 Smart Select 2
	Smart Select3	16	30	23	16:30:23	RCRCS1603023	X	X	X	X	Zone 2 Smart Select 3
	Smart Select4	16	30	24	16:30:24	RCRCS1603024	X	X	X	X	Zone 2 Smart Select 4
	Smart Select5	16	30	25	16:30:25	RCRCS1603025	X	X	X	X	Zone 2 Smart Select 5
	Cursor Up	16	31	10	16:31:10	RCRCS1603110	X	X	X	X	Zone 2 Cursor Up
	Cursor Down	16	31	11	16:31:11	RCRCS1603111	X	X	X	X	Zone 2 Cursor Down
	Cursor Left	16	31	12	16:31:12	RCRCS1603112	X	X	X	X	Zone 2 Cursor Left
	Cursor Right	16	31	13	16:31:13	RCRCS1603113	X	X	X	X	Zone 2 Cursor Right
	Enter	16	31	14	16:31:14	RCRCS1603114	X	X	X	X	Zone 2 Enter
	Return	16	31	15	16:31:15	RCRCS1603115	X	X	X	X	Zone 2 Return
Tuner	Memory	16	31	16	16:31:16	RCRCS1603116	X	X	X	X	Zone 2 Memory
	SLEEP (Toggle)	16	29	10	16:29:10	RCRCS1602910	—	—	—	—	Zone 2 Sleep Wake
	SLEEP OFF	16	38	10	16:38:10	RCRCS1603810	—	—	—	—	Turner Sleep Off
	[Tuner-1] 0	17	29	00	17:29:00	RCRCS1702900	A(2)	A(2)	—	—	Key 6/1 Pre Set No. or Frequency by Tuner-1
	[Tuner-1] 1	17	29	01	17:29:01	RCRCS1702901	A(2)	A(2)	—	—	Key 5/1 Pre Set No. or Frequency by Tuner-1
	[Tuner-1] 2	17	29	02	17:29:02	RCRCS1702902	X(1)	X(1)	—	—	Key 4/1 Pre Set No. or Frequency by Tuner-1
	[Tuner-1] 3	17	29	03	17:29:03	RCRCS1702903	A(1)	X(1)	—	—	Key 3/1 Pre Set No. or Frequency by Tuner-1
	[Tuner-1] 4	17	29	04	17:29:04	RCRCS1702904	A(2)	A(2)	—	—	Key 2/1 Pre Set No. or Frequency by Tuner-1
	[Tuner-1] 5	17	29	05	17:29:05	RCRCS1702905	A(2)	A(2)	—	—	Key 1/1 Pre Set No. or Frequency by Tuner-1
	[Tuner-1] 6	17	29	06	17:29:06	RCRCS1702906	A(1)	A(1)	—	—	Key 6/2 Pre Set No. or Frequency by Tuner-1
Tuner	[Tuner-1] 7	17	29	07	17:29:07	RCRCS1702907	X(1)	X(1)	—	—	Key 5/2 Pre Set No. or Frequency by Tuner-1
	[Tuner-1] 8	17	29	08	17:29:08	RCRCS1702908	A(1)	A(1)	—	—	Key 4/2 Pre Set No. or Frequency by Tuner-1
	[Tuner-1] 9	17	29	09	17:29:09	RCRCS1702909	A(2)	A(2)	—	—	Key 3/2 Pre Set No. or Frequency by Tuner-1
	[Tuner-1] FM	17	29	10	17:29:10	RCRCS1702910	A(2)	A(2)	—	—	Selected FM Tuner-1
	[Tuner-1] AM	17	29	11	17:29:11	RCRCS1702911	A(1)	A(1)	—	—	Selected AM Tuner-1
	[Tuner-1] DAB	17	29	60	17:29:60	RCRCS172960	—	—	X(1)	—	Selected DAB
	[Tuner-1] PRESET Up	17	29	13	17:29:13	RCRCS1702913	X(1)	X(1)	—	—	Turner (Step) Up for Tuner-1
	[Tuner-1] PRESET Down	17	29	14	17:29:14	RCRCS1702914	A(2)	A(2)	—	—	Turner (Step) Down for Tuner-1
	[Tuner-1] FREQ.(tuning) Up +	17	29	15	17:29:15	RCRCS1702915	A(1)	A(1)	—	—	Continuously (Step) Up Tuner-1
	[Tuner-1] FREQ.(tuning) Down -	17	29	16	17:29:16	RCRCS1702916	X(1)	X(1)	—	—	Continuously (Step) Down Tuner-1
BAND	[Tuner-1] 1 MODE	17	29	17	17:29:17	RCRCS1702917	A(2)	A(2)	—	—	Frequency (Scan) Down for Tuner-1
	[Tuner-1] BAND	17	29	61	17:29:61	RCRCS1702961	X(1)	X(1)	—	—	Select FM and AM (Toggle) FM and DAB (Toggle)

ZSB	RDS/SEARCH	17	29	02	17 29 02	RRCIS1702902	X	X	X	X	Direct Tuning(RDS) Search
	Next	24	32	02	24 32 02	RRCIS2403202	X	X	X	X	Go to next song
	Previous	24	33	02	24 33 02	RRCIS2403302	X	X	X	X	Go to previous song
	Random (Toggle)	24	41	01	24 41 01	RRCIS2404101	X	X	X	X	Change Random mode (Toggle)
	Random On	24	41	02	24 41 02	RRCIS2404102	X	X	X	X	Change Random mode (Toggle)
	Random Off	24	41	03	24 41 03	RRCIS2404103	X	X	X	X	Change Random mode (Toggle)
	Repeat(On/Off)	24	42	01	24 42 01	RRCIS2404201	X	X	X	X	Change Repeat mode (Toggle)
	Repeat Off	24	42	02	24 42 02	RRCIS2404202	X	X	X	X	Turn Off the repeat mode
	Repeat One	24	42	03	24 42 03	RRCIS2404203	X	X	X	X	One track repeat mode on
	Repeat All	24	42	04	24 42 04	RRCIS2404204	X	X	X	X	All track repeat mode on
	Pause	24	48	02	24 48 02	RRCIS2404802	X	X	X	X	Pause the playback
	REW (Toggle)	24	50	02	24 50 02	RRCIS2405002	X	X	X	X	Change REW mode (Toggle)
	FF (Toggle)	24	52	02	24 52 02	RRCIS2405202	X	X	X	X	Change FF mode (Toggle)
	Play/Pause	24	53	10	24 53 10	RRCIS2405310	X	X	X	X	Start a playback
	iPod Play	24	53	32	24 53 32	RRCIS2405332	X	X	X	X	Play Pause Toggle
	USB Direct Play	24	53	32	24 53 32	RRCIS2405332	X	X	X	X	Start a playback directly in a folder of USB storage
	Stop	24	54	02	24 54 02	RRCIS2405402	X	X	X	X	Stop the playback
Network	Network(DMP): Next	27	32	02	27 32 02	RRCIS2703202	X	X	X	X	
	Network(DMP): Previous	27	33	02	27 33 02	RRCIS2703302	X	X	X	X	
	JPEG Skip + (Next)	27	33	11	27 33 11	RRCIS2703311	X	X	X	X	
	JPEG Skip - (Previous)	27	33	11	27 33 11	RRCIS2703311	X	X	X	X	
	Network(DMP): Random (toggle)	27	41	01	27 41 01	RRCIS2704101	X	X	X	X	
	Network(DMP): Random On	27	41	02	27 41 02	RRCIS2704102	X	X	X	X	
	Network(DMP): Random Off	27	41	03	27 41 03	RRCIS2704103	X	X	X	X	
	Memory	27	41	82	27 41 82	RRCIS2704182	X	X	X	X	
	Network(DMP): Repeat (toggle)	27	42	01	27 42 01	RRCIS2704201	X	X	X	X	
	Network(DMP): Repeat Off	27	42	02	27 42 02	RRCIS2704202	X	X	X	X	
	Network(DMP): Repeat 1	27	42	03	27 42 03	RRCIS2704203	X	X	X	X	
	Network(DMP): Repeat All	27	42	04	27 42 04	RRCIS2704204	X	X	X	X	
	Network(DMP): USB: NEW	27	50	02	27 50 02	RRCIS2705002	X	X	X	X	
	Network(DMP): USB: FF	27	52	02	27 52 02	RRCIS2705202	X	X	X	X	
	Network(DMP): Play(Pause)	27	53	02	27 53 02	RRCIS2705302	X	X	X	X	
	Internet Radio - Recent Played Station	27	53	01	27 53 01	RRCIS2705301	X	X	X	X	
	Favorite Direct Play	27	53	02	27 53 02	RRCIS2705302	X	X	X	X	
	Network(DMP): Stop	27	54	02	27 54 02	RRCIS2705402	X	X	X	X	
	Network(DMP): Pause	27	54	02	27 54 02	RRCIS2705402	X	X	X	X	
	Network(DMP): Cursor Up	27	56	02	27 56 02	RRCIS2705602	X	X	X	X	
	Network(DMP): Cursor Down	27	56	03	27 56 03	RRCIS2705603	X	X	X	X	
	Network(DMP): Cursor Left	27	56	04	27 56 04	RRCIS2705604	X	X	X	X	
	Network(DMP): Cursor Right	27	56	05	27 56 05	RRCIS2705605	X	X	X	X	
	Network(DMP): Enter	27	57	02	27 57 02	RRCIS2705702	X	X	X	X	
	Network(DMP): Page Previous	27	57	13	27 57 13	RRCIS2705713	X	X	X	X	
	Network(DMP): Page Next	27	57	14	27 57 14	RRCIS2705714	X	X	X	X	
	Network(DMP): Back(Return)	27	58	02	27 58 02	RRCIS2705802	X	X	X	X	
	Network(DMP): HOME	27	58	03	27 58 03	RRCIS2705803	X	X	X	X	
3rd Zone (Multi Zone B)	POWER ON/OFF (Toggle)	16	93	08	16 93 08	RRCIS1609308	X	X	X	X	Power On/Off (Toggle)
	POWER ON	16	93	03	16 93 03	RRCIS1609303	X	X	X	X	Power On
	POWER OFF	16	93	04	16 93 04	RRCIS1609304	X	X	X	X	Power Off
	VOL +	16	93	01	16 93 01	RRCIS1609301	X	X	X	X	Volume Up

Tuner-1	6	17	93	06	17 93 06	RRCIS1709306	X	X				Ten Key 6 (Pre set No. or Frequency) for Tuner-1	
	7	17	93	07	17 93 07	RRCIS1709307	X	X				Ten Key 7 (Pre set No. or Frequency) for Tuner-1	
	8	17	93	08	17 93 08	RRCIS1709308	X	X				Ten Key 8 (Pre set No. or Frequency) for Tuner-1	
	9	17	93	09	17 93 09	RRCIS1709309	X	X				Ten Key 9 (Pre set No. or Frequency) for Tuner-1	
	FM	17	93	10	17 93 10	RRCIS1709310	X	X				Turn On and select FM for Tuner-1	
	AM	17	93	11	17 93 11	RRCIS1709311	X	X				Turn On and select AM for Tuner-1	
	PRESET Up +	17	93	12	17 93 12	RRCIS1709312	X	X				Repeat (Skip) Up for Tuner-1	
	PRESET Down -	17	93	14	17 93 14	RRCIS1709314	X	X				Repeat (Skip) Down for Tuner-1	
	FREQ.(tuning) Up +	17	93	16	17 93 16	RRCIS1709316	X	X				Frequency (Scan) Up for Tuner-1	
	FREQ.(tuning) Down -	17	93	16	17 93 16	RRCIS1709316	X	X				Frequency (Scan) Down for Tuner-1	
	T-MODE	17	93	17	17 93 17	RRCIS1709317	X	X				Switch FM MODE (Auto/Store / Manual) for Tuner-1	
	BAND (F/AM)	17	93	61	17 93 61	RRCIS1709361	X	X				Select FM and AM (Toggle)	
	RDS/SEARCH	93	17	93	02	17 93 02	RRCIS1709302	X	X				
	ZSB	Zone 3: USB: Next	24	32	03	24 32 03	RRCIS2403203	X	X				
		Zone 3: USB: Previous	24	33	03	24 33 03	RRCIS2403303	X	X				
		Zone 3: USB: Random Mode	24	34	04	24 34 04	RRCIS2404041	X	X				
		Zone 3: USB: Random Off	24	34	02	24 44 02	RRCIS2404042	X	X				
		Zone 3: USB: Random On	24	44	03	24 44 03	RRCIS2404043	X	X				
		Zone 3: USB: Repeat Mode	24	45	01	24 45 01	RRCIS2404041	X	X				
		Zone 3: USB: Repeat Off	24	45	02	24 45 02	RRCIS2404042	X	X				
		Zone 3: USB: Repeat One	24	45	03	24 45 03	RRCIS2404043	X	X				
		Zone 3: USB: Repeat All	24	45	04	24 45 04	RRCIS2404044	X	X				
		Zone 3: USB: Pause	24	46	03	24 46 03	RRCIS2404043	X	X				
		Zone 3: USB: REW	24	50	03	24 50 03	RRCIS2405003	X	X				
Zone 3: USB: FF		24	62	03	24 62 03	RRCIS2406203	X	X					
Zone 3: USB: Play/Pause		24	63	03	24 63 03	RRCIS2406303	X	X					
Zone 3: iPod Play		24	63	33	24 63 33	RRCIS2406333	X	X					
Zone 3: USB: Stop		24	64	03	24 64 03	RRCIS2406403	X	X					
Zone 3: USB Direct Play		24	64	62	24 64 62	RRCIS2406462	X	X					
Network		Network(DMP): Next Track(file)	27	32	03	27 32 03	RRCIS2703203	X	X				
		Network(DMP): Previous Track(file)	27	33	03	27 33 03	RRCIS2703303	X	X				
		Network: Jpeg Skip +	27	32	12	27 32 12	RRCIS2703212	X	X				
		Network: Jpeg Skip -	27	33	12	27 33 12	RRCIS2703312	X	X				
		Network(DMP): Repeat (toggle)	27	45	01	27 45 01	RRCIS2704501	X	X				
		Network(DMP): Repeat Off	27	45	02	27 45 02	RRCIS2704502	X	X				
		Network(DMP): Repeat 1	27	45	03	27 45 03	RRCIS2704503	X	X				
		Network(DMP): Repeat All	27	45	04	27 45 04	RRCIS2704504	X	X				
	Network(DMP): Pause	27	48	03	27 48 03	RRCIS2704803	X	X					
	Network(DMP): REW	27	56	02	27 56 02	RRCIS2705602	X	X					
	Network(DMP): FF	27	62	03	27 62 03	RRCIS2706203	X	X					
	Network(DMP): Play/Pause	27	63	03	27 63 03	RRCIS2706303	X	X					
	iPod Direct Play	27	63	33	27 63 33	RRCIS2706333	X	X					
	Internet Radio Recent Played Station	27	63	62	27 63 62	RRCIS2706362	X	X					
	Network: Favorite Direct Play	27	63	63	27 63 63	RRCIS2706363	X	X					
	Network(DMP): Stop	27	64	03	27 64 03	RRCIS2706403	X	X					
	Network(DMP): Cursor Up	27	80	03	27 80 03	RRCIS2708003	X	X					
	Network(DMP): Cursor Down	27	81	03	27 81 03	RRCIS2708103	X	X					
	Network(DMP): Cursor Left	27	85	03	27 85 03	RRCIS2708503	X	X					
	Network(DMP): Cursor Right	27	86	03	27 86 03	RRCIS2708603	X	X					
	Network(DMP): Enter	27	87	03	27 87 03	RRCIS2708703	X	X					
	Network(DMP): Back/Return	27	83	03	27 83 03	RRCIS2708303	X	X					

DISASSEMBLY

Flowchart

1. FRONT ASSY

2. RADIATOR ASSY

3. DIGITAL PCB

4. VIDEO PCB

5. INPUT PCB

6. SPK PCB

7. SMPS PCB

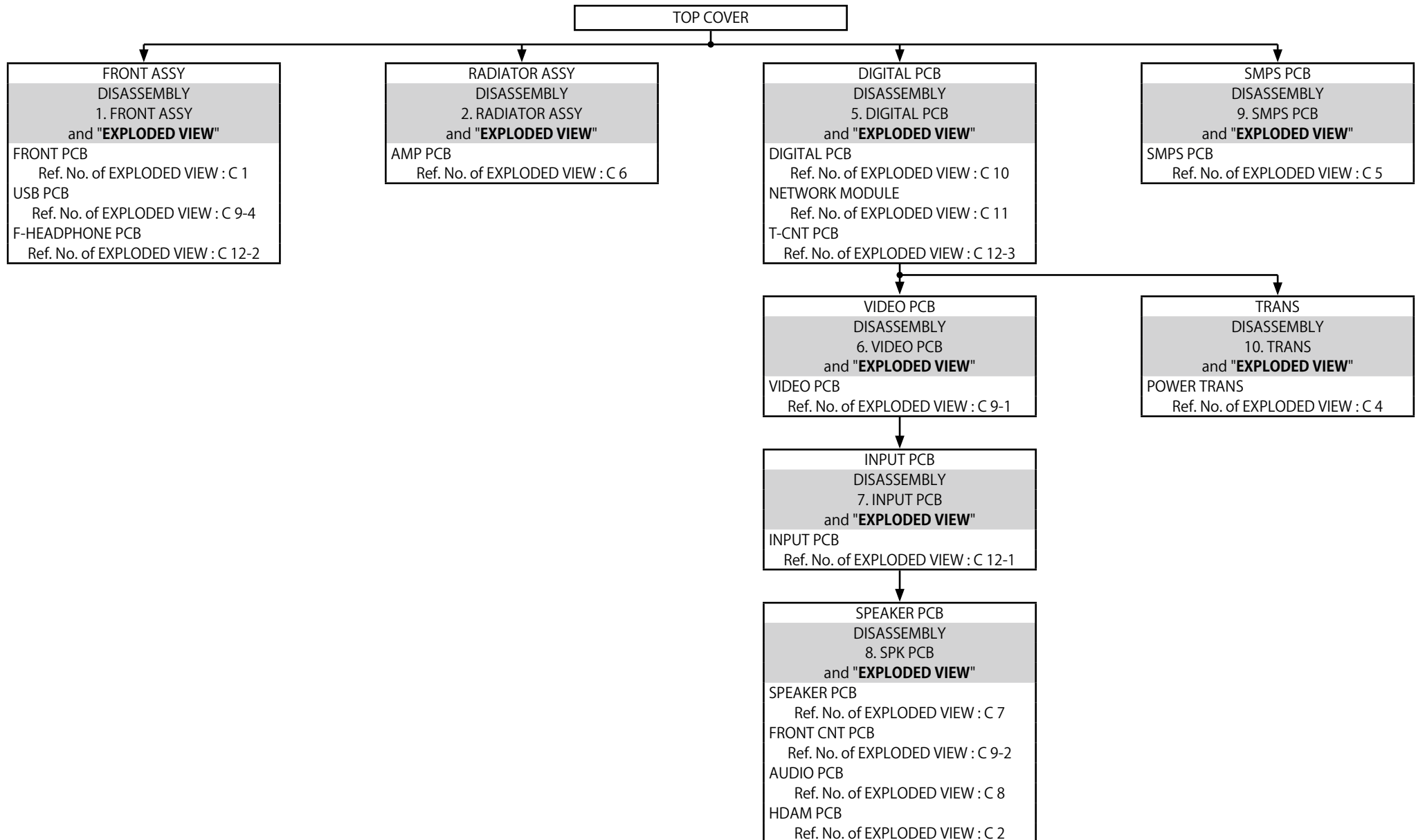
8. TRANS

EXPLODED VIEW

PACKAGING VIEW

Flowchart

- Remove each part following the flow below.
- Reassemble the removed parts in the reverse order.
- Read "[SAFETY PRECAUTIONS](#)" before reassembling the removed parts.
- If wire bundles are removed or moved during adjustment or part replacement, reshape the wires after completing the work. Failure to shape the wires correctly may cause problems such as noise.
- See "[EXPLODED VIEW](#)"

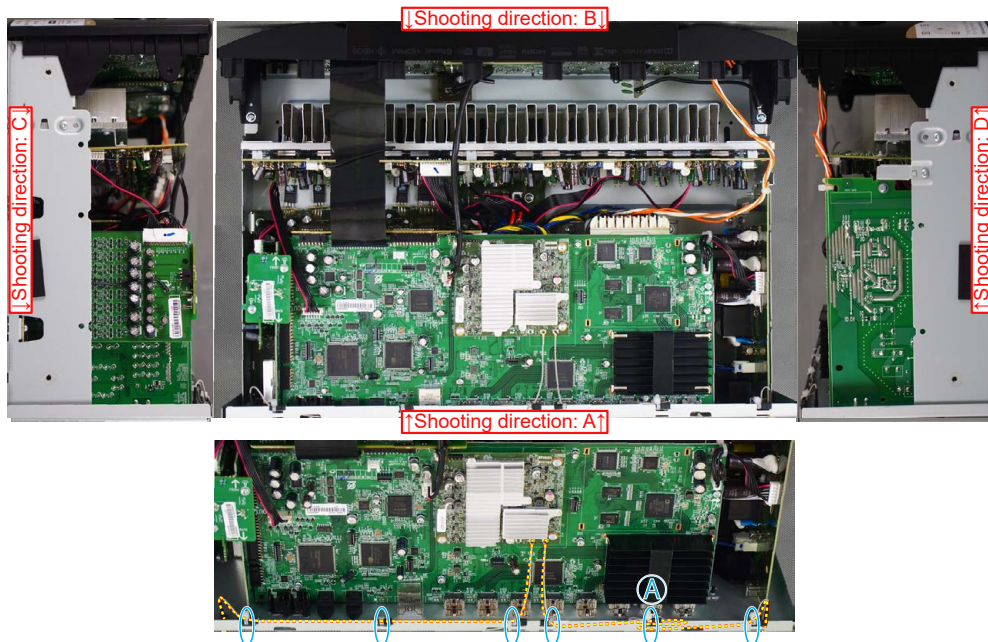


Explanatory Photos for DISASSEMBLY

- For the shooting direction of each photos used in this manual, see the photo below.
- **A, B, C and D** in the photo below indicate the shooting directions of photos.
- The photographs with no shooting direction indicated were taken from the top of the unit.
- Photos of SR5015 U are used in this manual.

The viewpoint of each photograph

(Shooting direction : X) [View from the top]

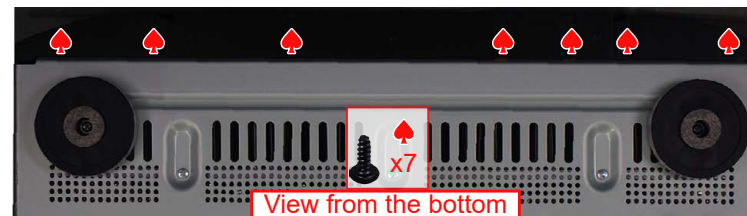


Caution : Turn up and spare wire at position ㊸ .

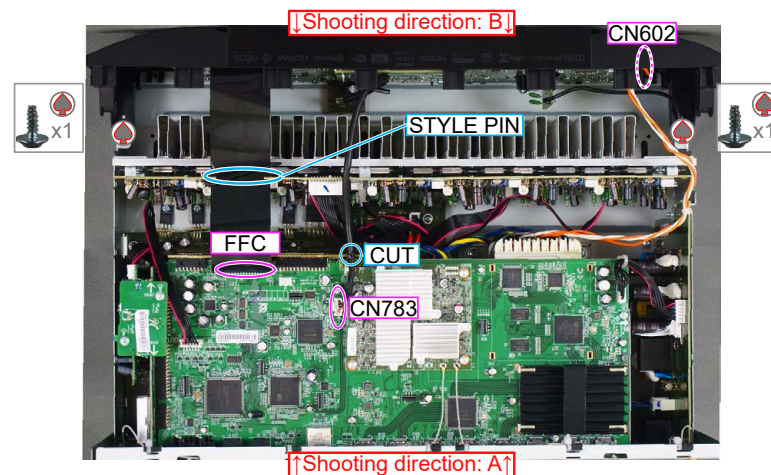
1. FRONT ASSY

Proceeding : TOP COVER → FRONT ASSY

(1) Remove the screws.



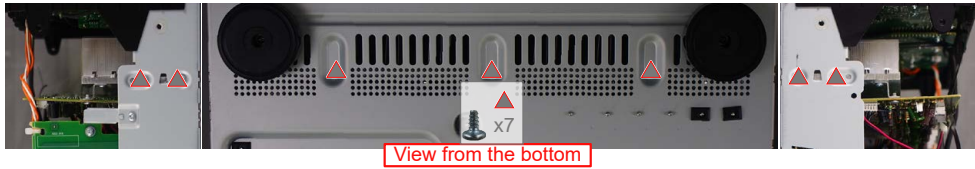
(2) Remove the screws. Remove the STYLE PIN and connectors. Remove the FFC. Cut the wire clamps.



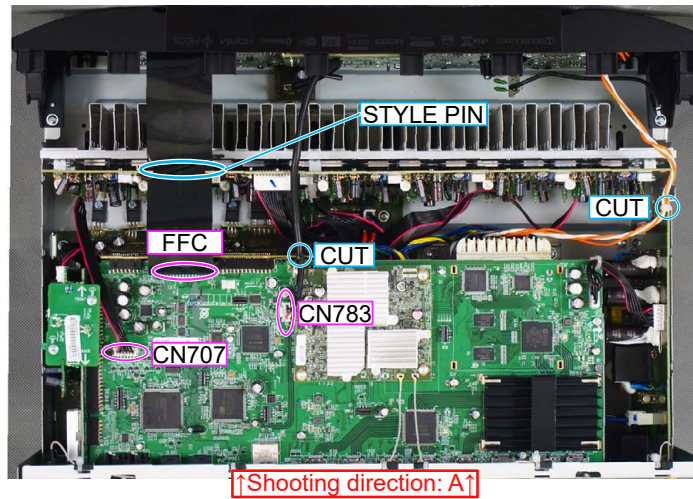
2. RADIATOR ASSY

Proceeding : **TOP COVER** → **RADIATOR ASSY**

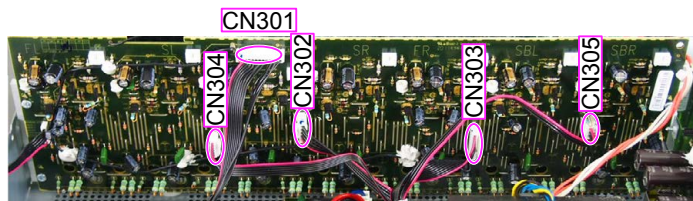
(1) Remove the screws.



(2) Remove the STYLE PINs and connectors. Remove the FFC. Cut the wire clamps.



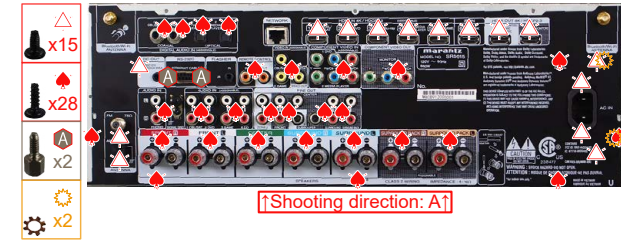
(3) Remove the connector.



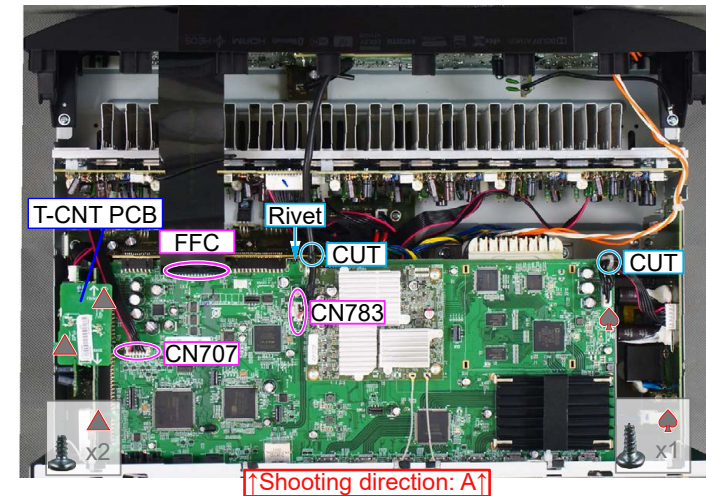
3. DIGITAL PCB

Proceeding : **TOP COVER** → **DIGITAL PCB**

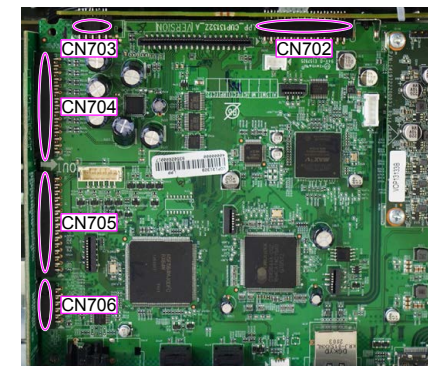
(1) Remove the screws.



(2) Remove the screws. Remove the T-CNT PCB. Remove the connector. Remove the FFC. Cut the wire clamps.



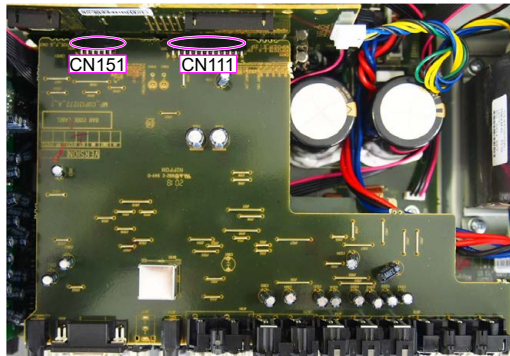
(3) Remove the connector.



4. VIDEO PCB

Proceeding : **TOP COVER** → **DIGITAL PCB** → **VIDEO PCB**

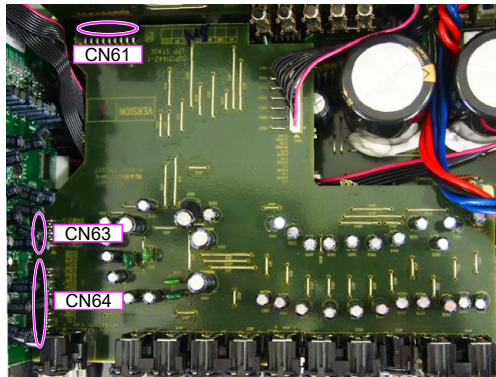
(1) Remove the connector.



5. INPUT PCB

Proceeding : **TOP COVER** → **DIGITAL PCB** → **VIDEO PCB** → **INPUT PCB**

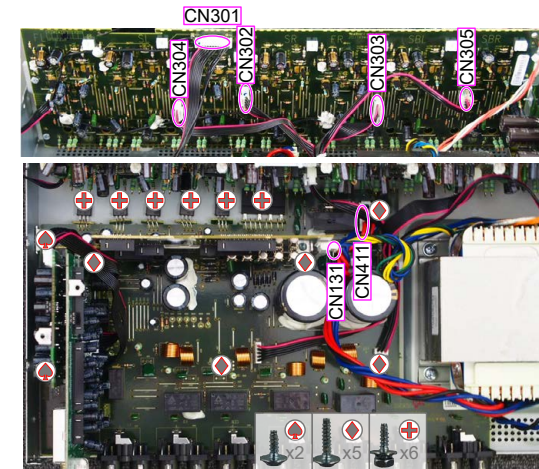
(1) Remove the connector. Remove the STYLE PIN.



6. SPK PCB

Proceeding : **TOP COVER** → **DIGITAL PCB** → **VIDEO PCB** → **INPUT PCB**
→ **SPK PCB**

(1) Remove the screws. Remove the connector.



7. SMPS PCB

Proceeding : **TOP COVER** → **SMPS PCB**

See "[EXPLODED VIEW](#)" for instructions on removing the SMPS PCB.

8. TRANS

Proceeding : **TOP COVER** → **DIGITAL PCB** → **TRANS**

See "[EXPLODED VIEW](#)" for instructions on removing the transformer (TRANS).

Parts List: <https://dmedia.soundunited.com/documents/details/27392>

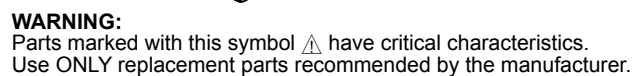
Before Servicing This Unit

Electrical

Mechanical

Repair Information

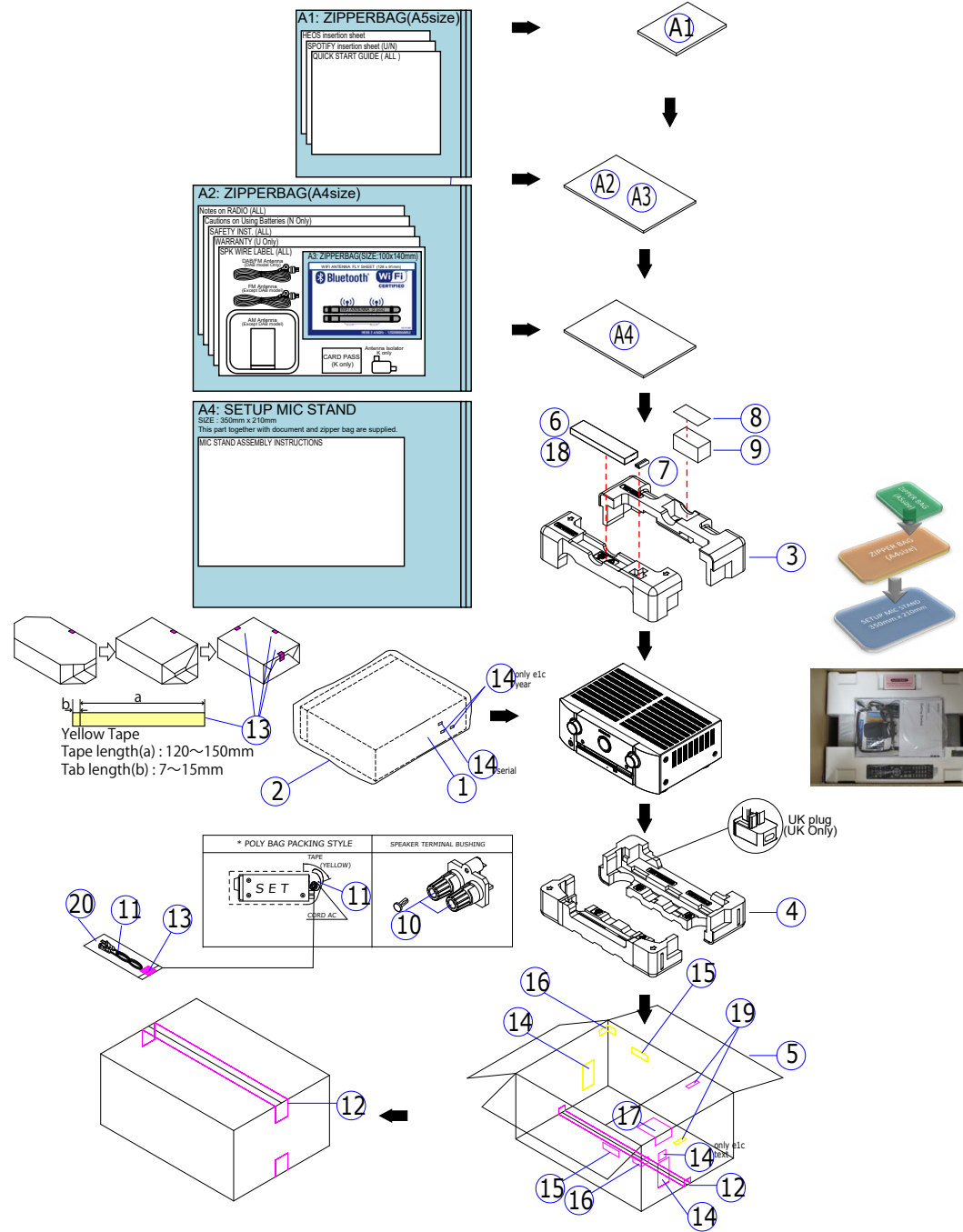
Updating



PACKAGING VIEW

Parts List : <https://dmedia.soundunited.com/documents/details/27392>

PACKING VIEW [SR5015]



REPAIR INFORMATION

TROUBLE SHOOTING

1. POWER
2. Analog video
3. HDMI/DVI
4. AUDIO
5. Network / Bluetooth / USB
6. SMPS

AUDIO CHECK PATH

HDMI "Rx/Tx" Failure Detection

1. Prior checking
2. Preparations for checking HDMI Switcher reception/transmission register
3. Starting detecting the point of failure
4. Device implementation location

CLOCK FLOW & WAVE FORM IN DIGITAL BLOCK

SPECIAL MODE

Special mode setting button

1. Version Display Mode
2. PANEL / REMOTE LOCK Selection Mode
- 3-1. Selecting the Mode for Service-related
- 3-2. Protection History Display Mode
- 3-3. 232C Standby Clear Mode
- 3-4. Operation Info Mode
- 3-5. TUNER STEP mode (U, N only)
4. Protection Pass Mode
5. Network Initialization Mode
6. Clearing of Operation Info
7. Log Capture feature
8. Protection popups

DIAGNOSTIC MODE

Service Path Check Mode

DIAGNOSTIC PATH DIAGRAM

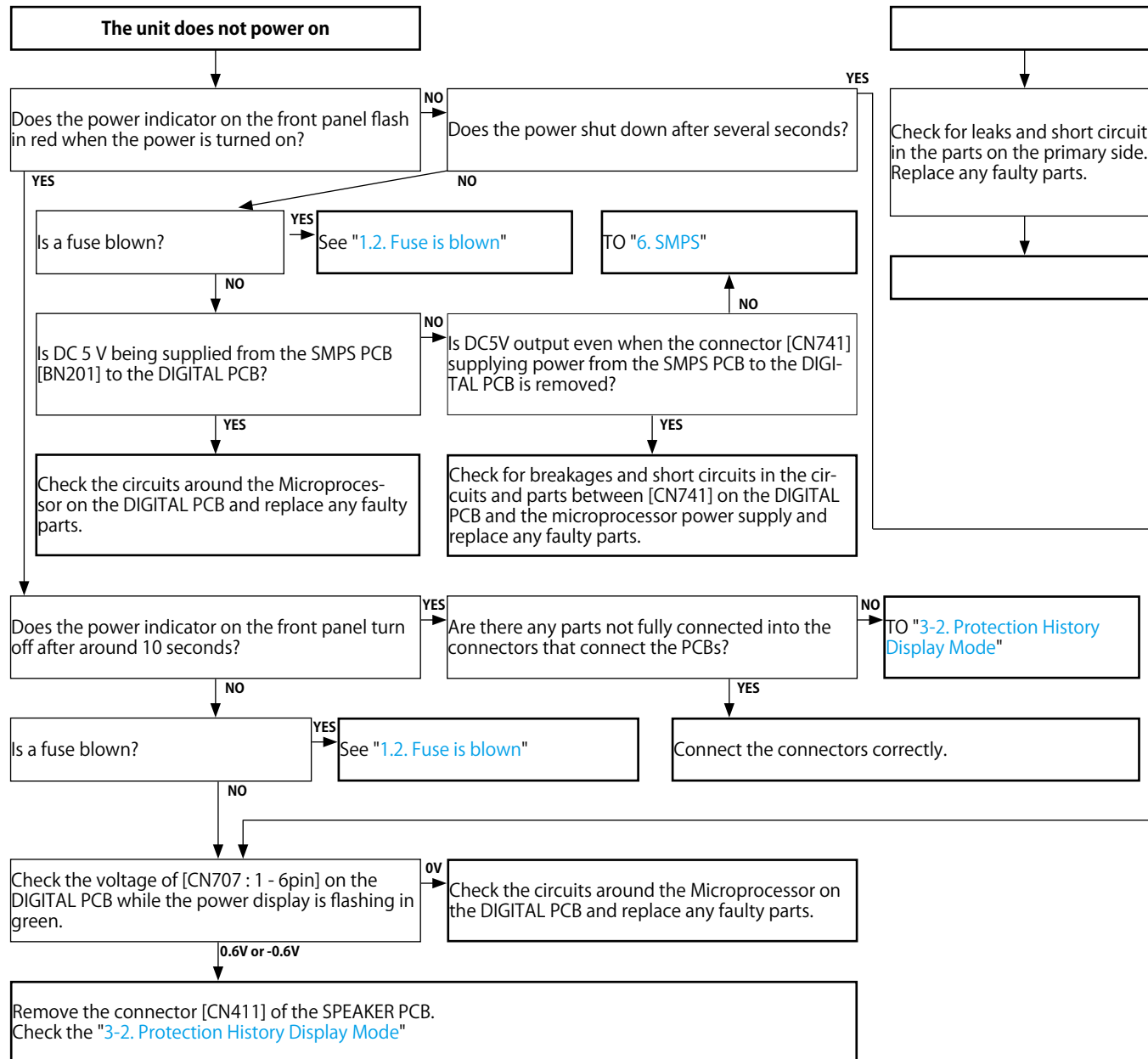
JIG FOR SERVICING

ADJUSTMENT

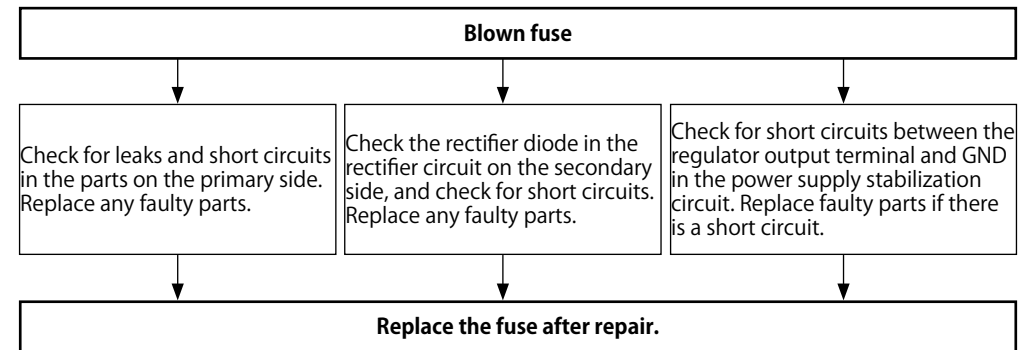
TROUBLE SHOOTING

1. POWER

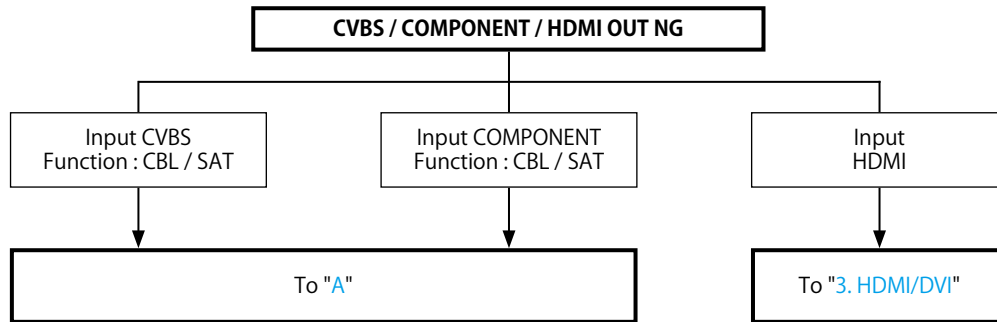
1.1. The unit does not power on



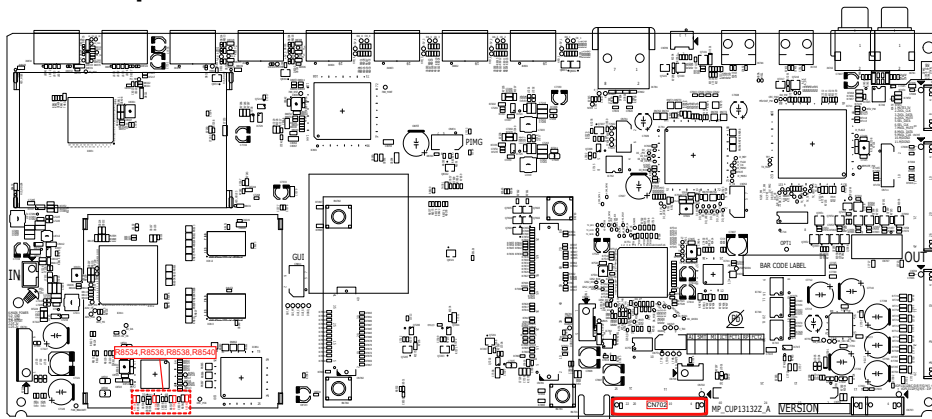
1.2. Fuse is blown



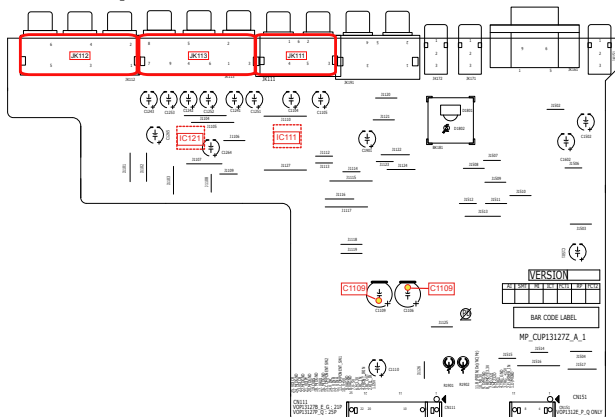
2. Analog video



DIGITAL test point

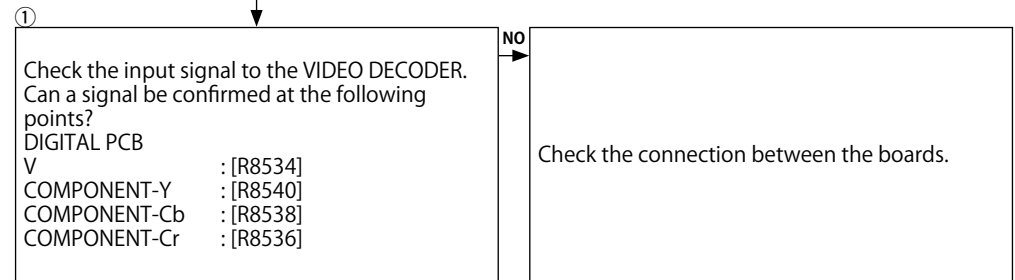


VIDEO test point



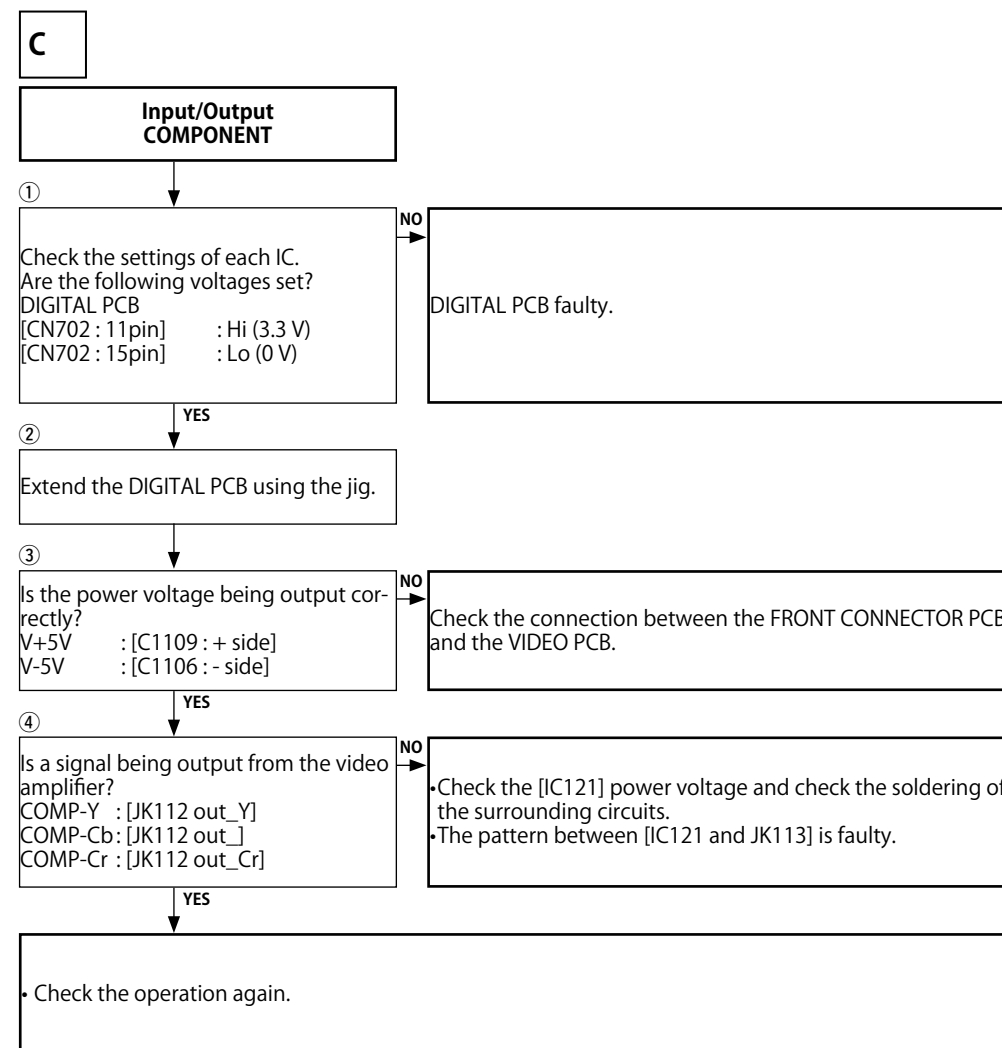
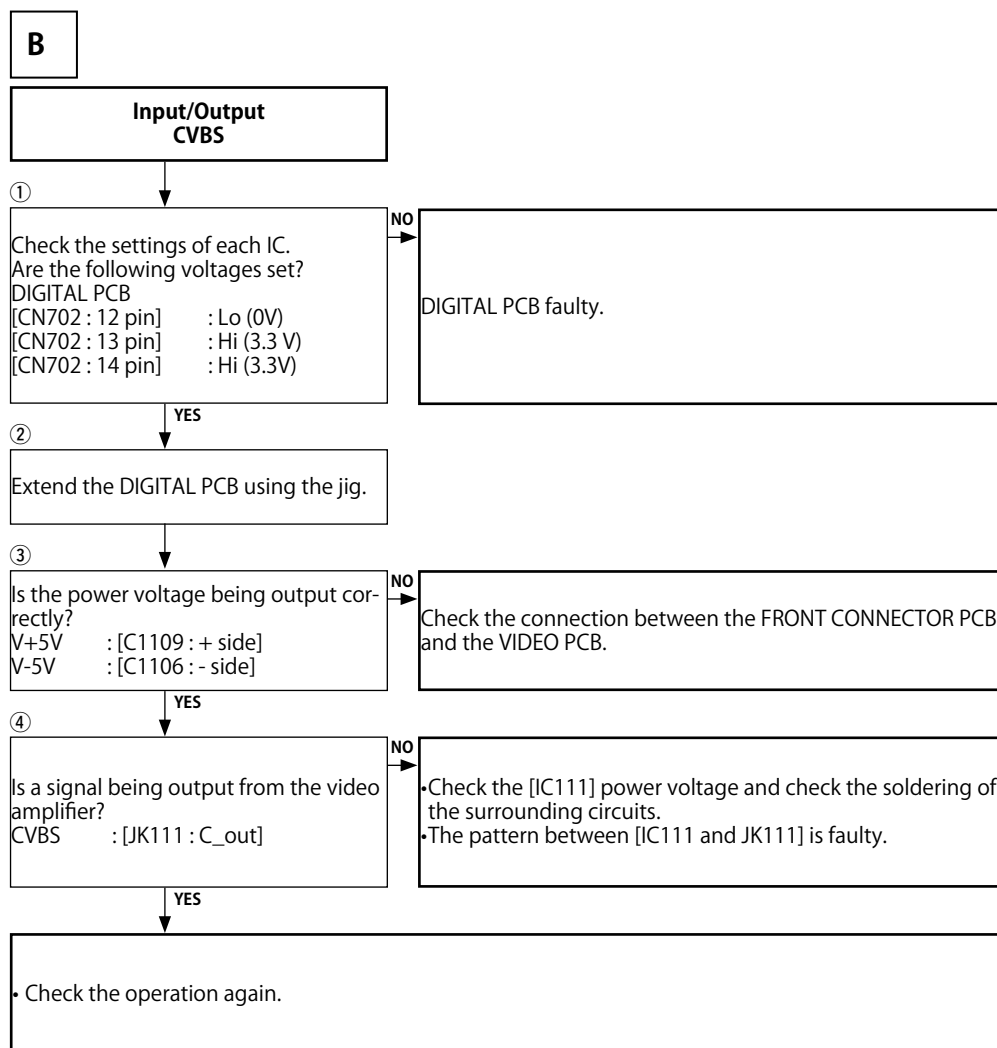
A

Input
CVBS / COMPONENT



Output COMPONENT NG : Check C-4
Output HDMI NG : See "3. HDMI/DVI"

Input CVBS : Check B
Input COMPONENT : Check C

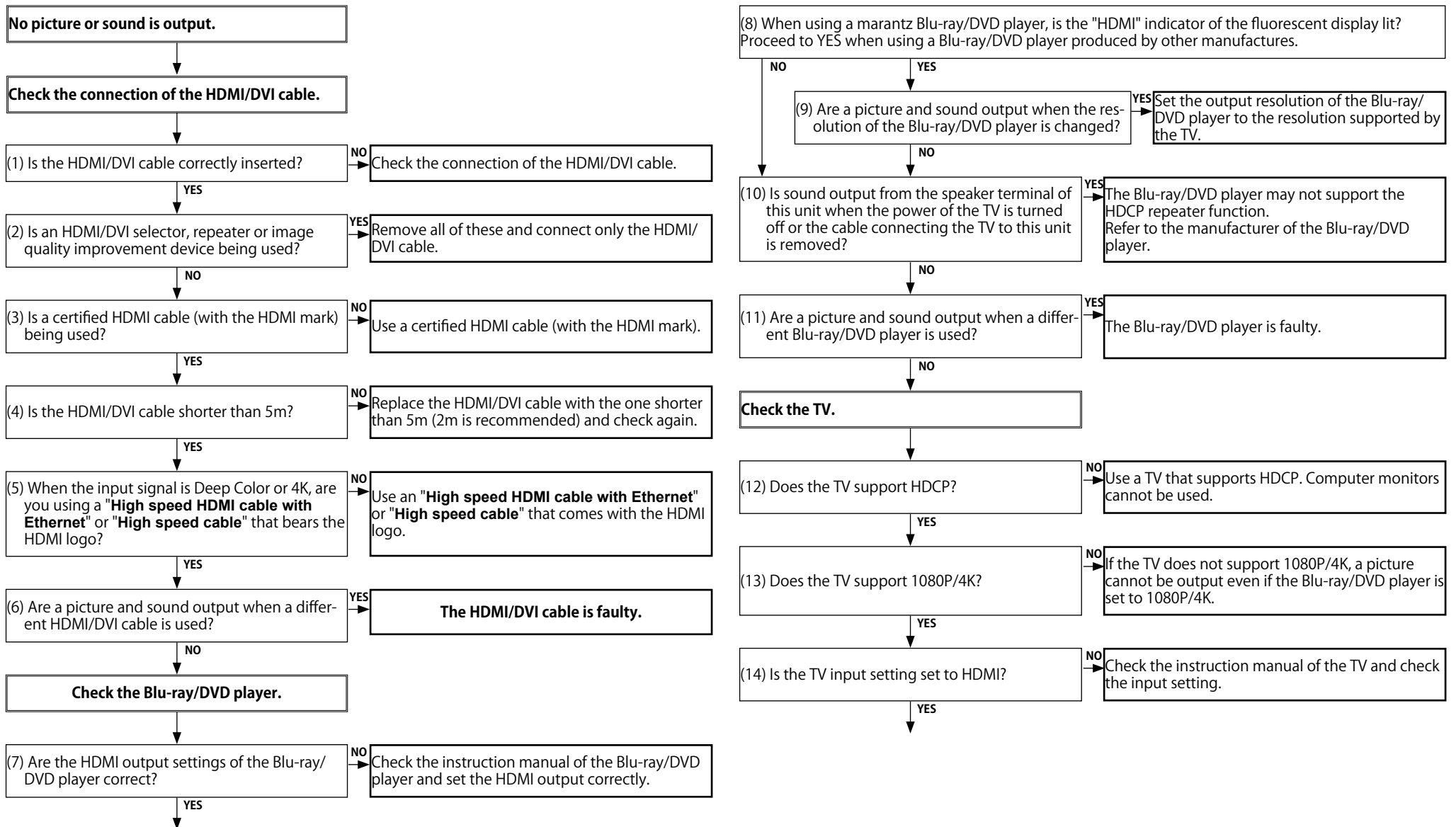


※ These instructions refer to the VIDEO PCB unless otherwise specified.

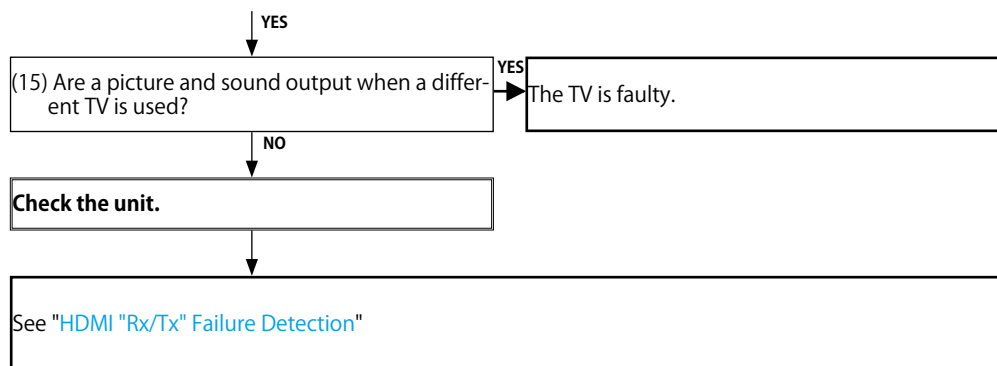
※ These instructions refer to the VIDEO PCB unless otherwise specified.

3. HDMI/DVI

3.1. No picture or sound is output (HDMI to HDMI)

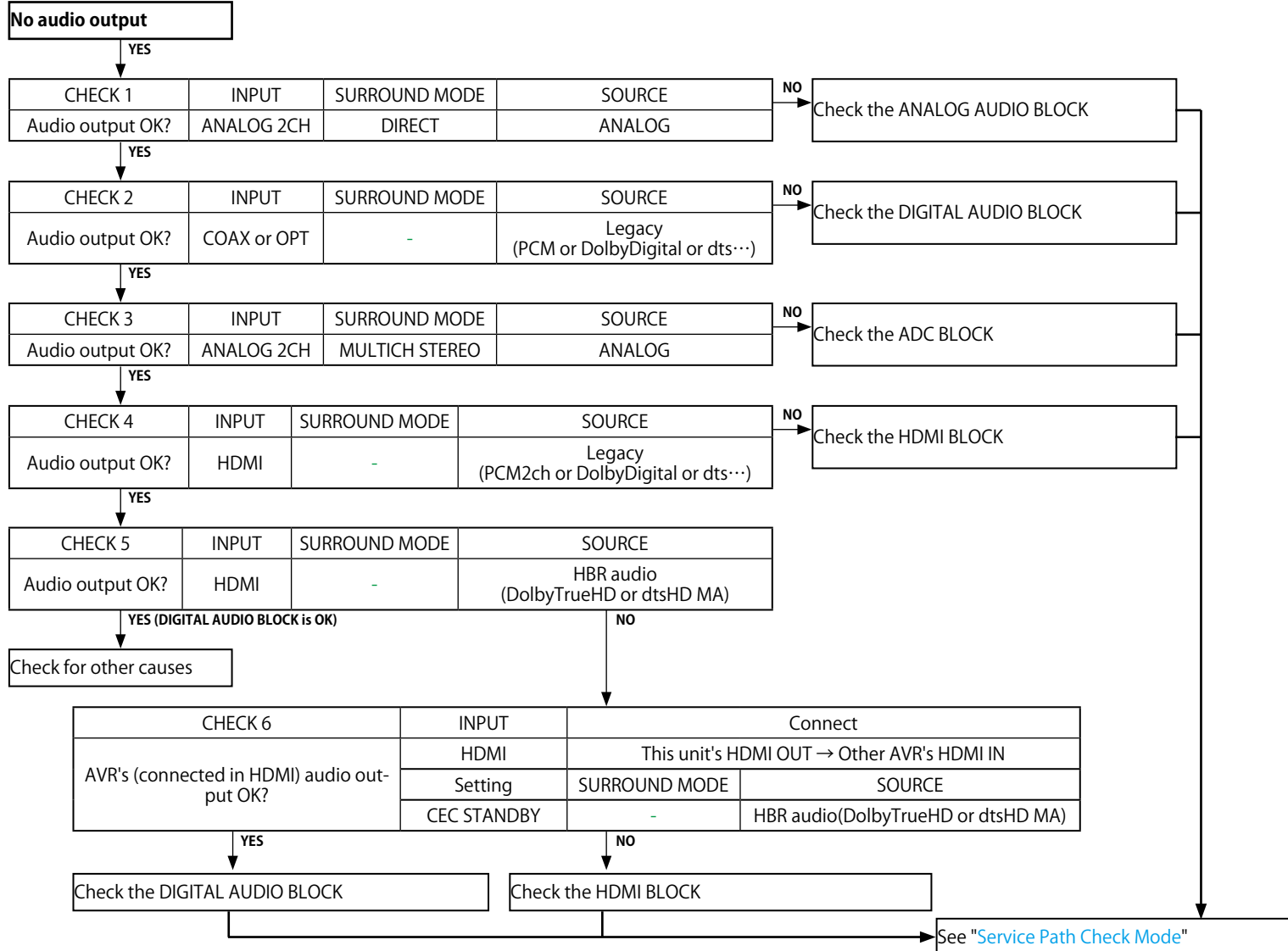


Go to next page.



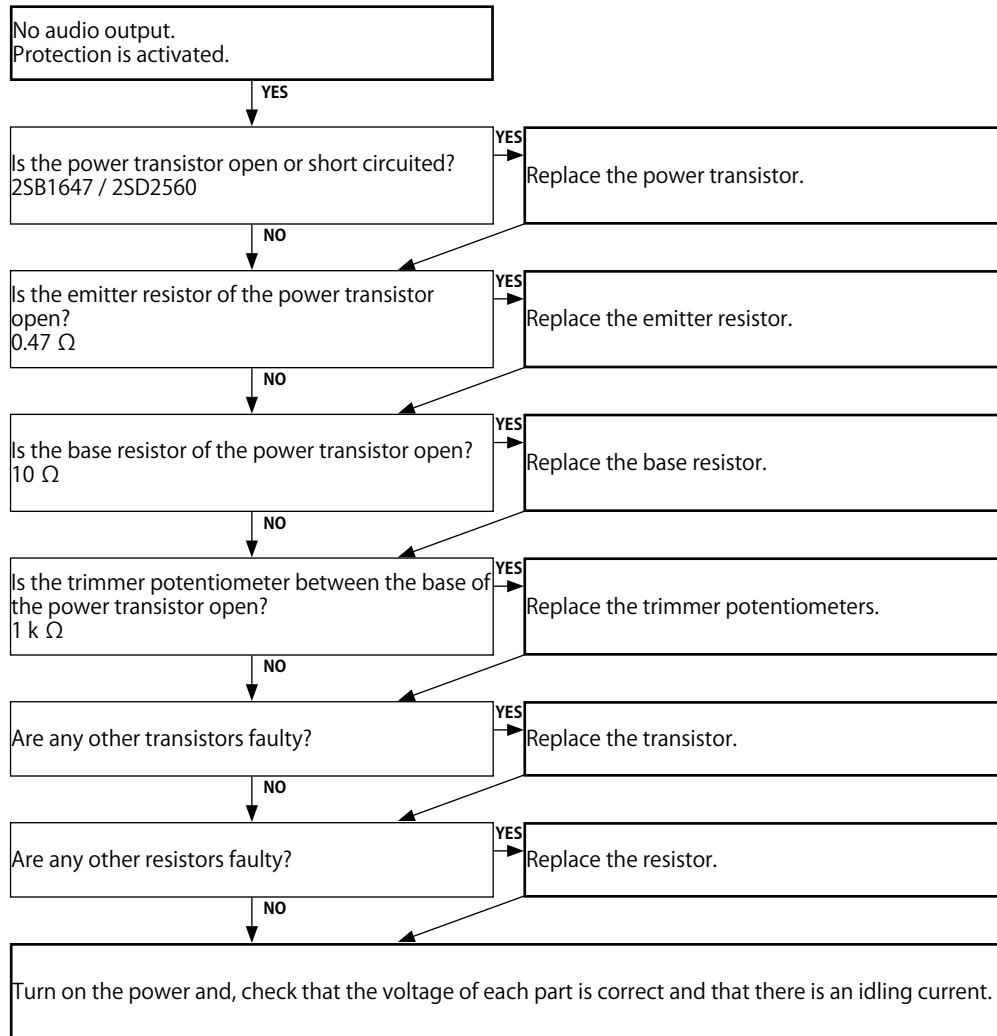
4. AUDIO

4.1. AUDIO CHECK

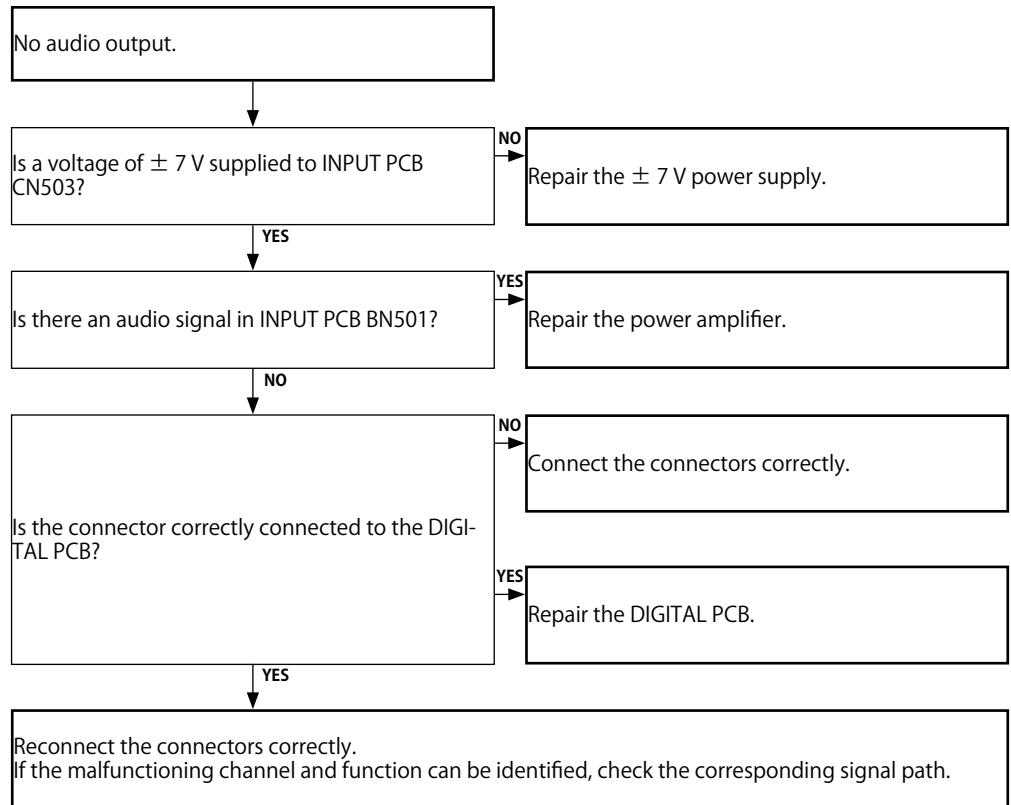


4.2. Power AMP (AMP PCB)

When using the protection pass mode, do not connect speakers to the speaker terminals.

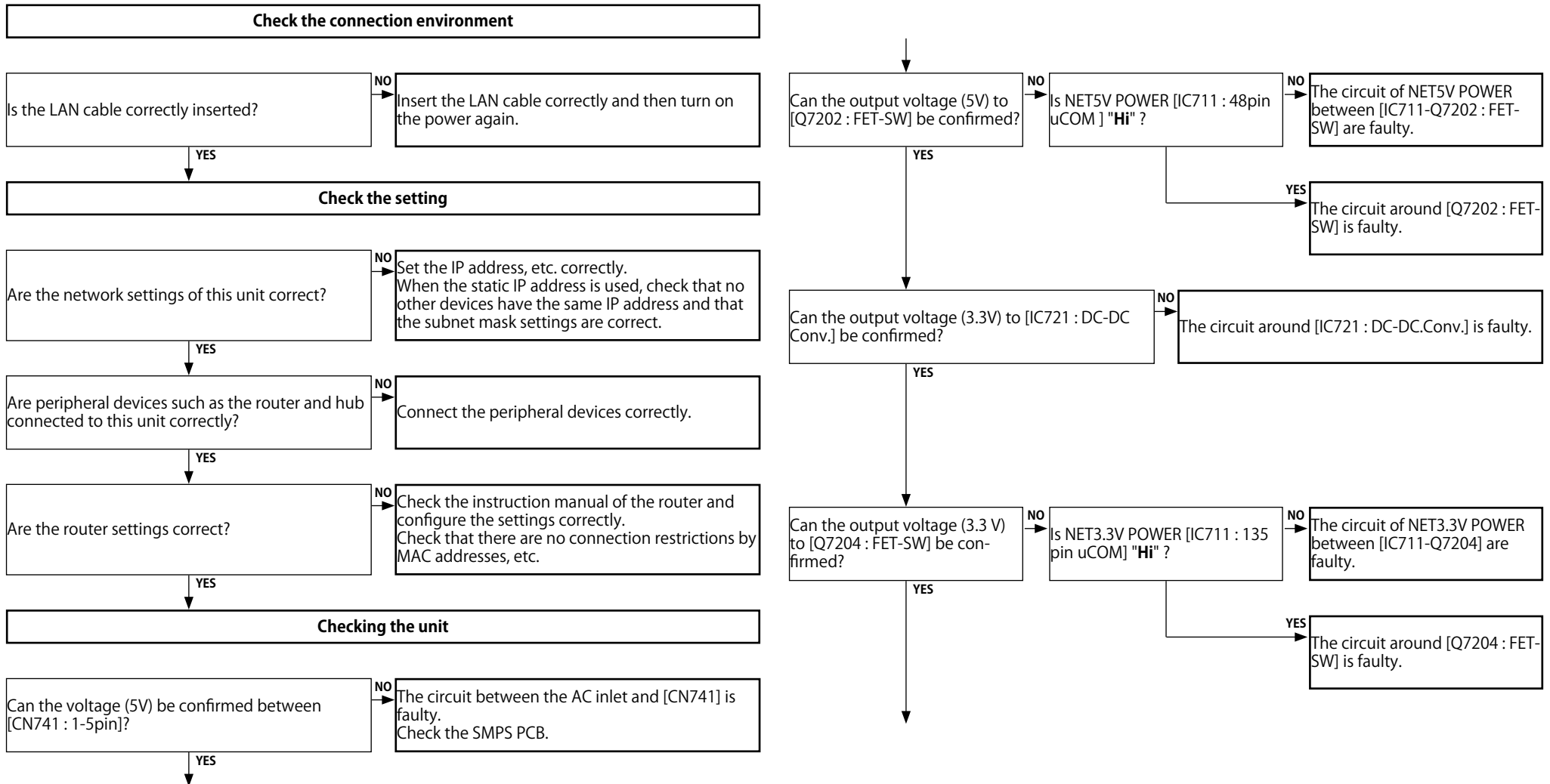


4.3. Analog audio

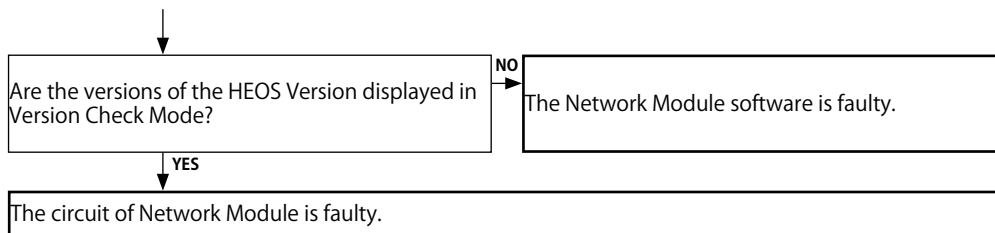


5. Network / Bluetooth / USB

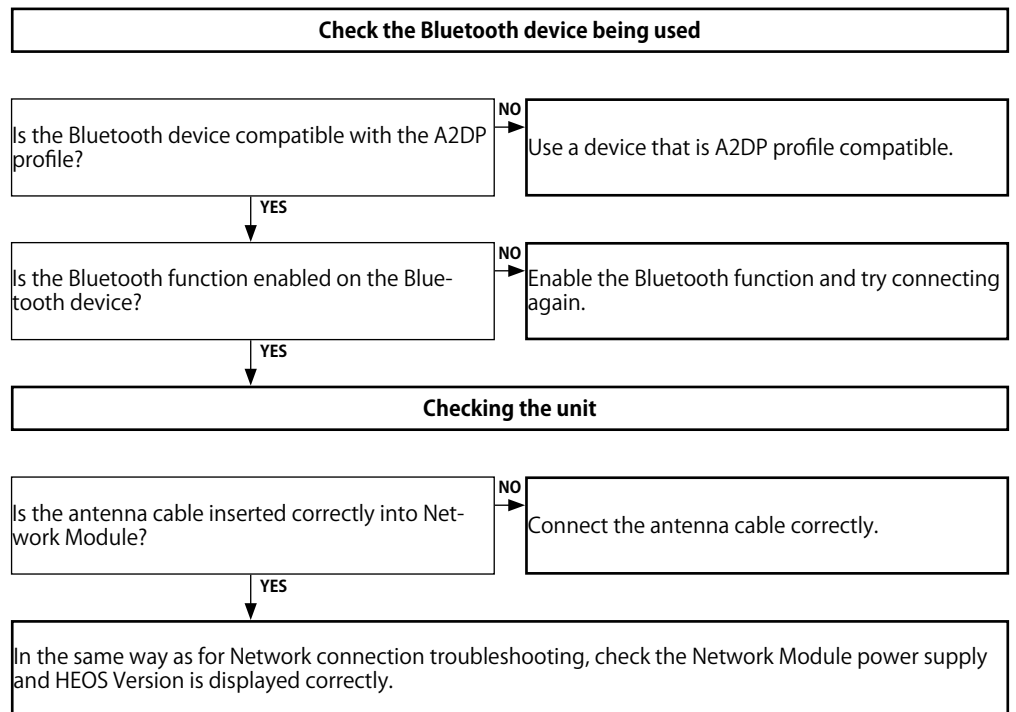
5.1. Cannot connect to the network



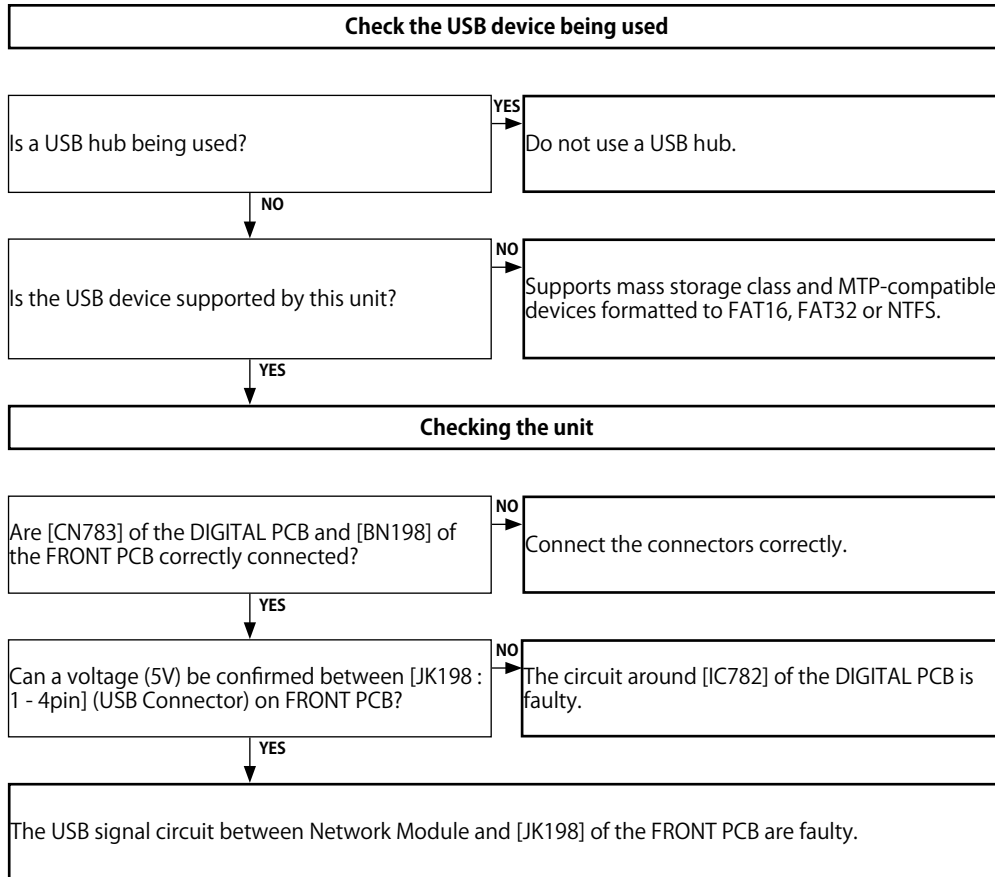
Go to next page.



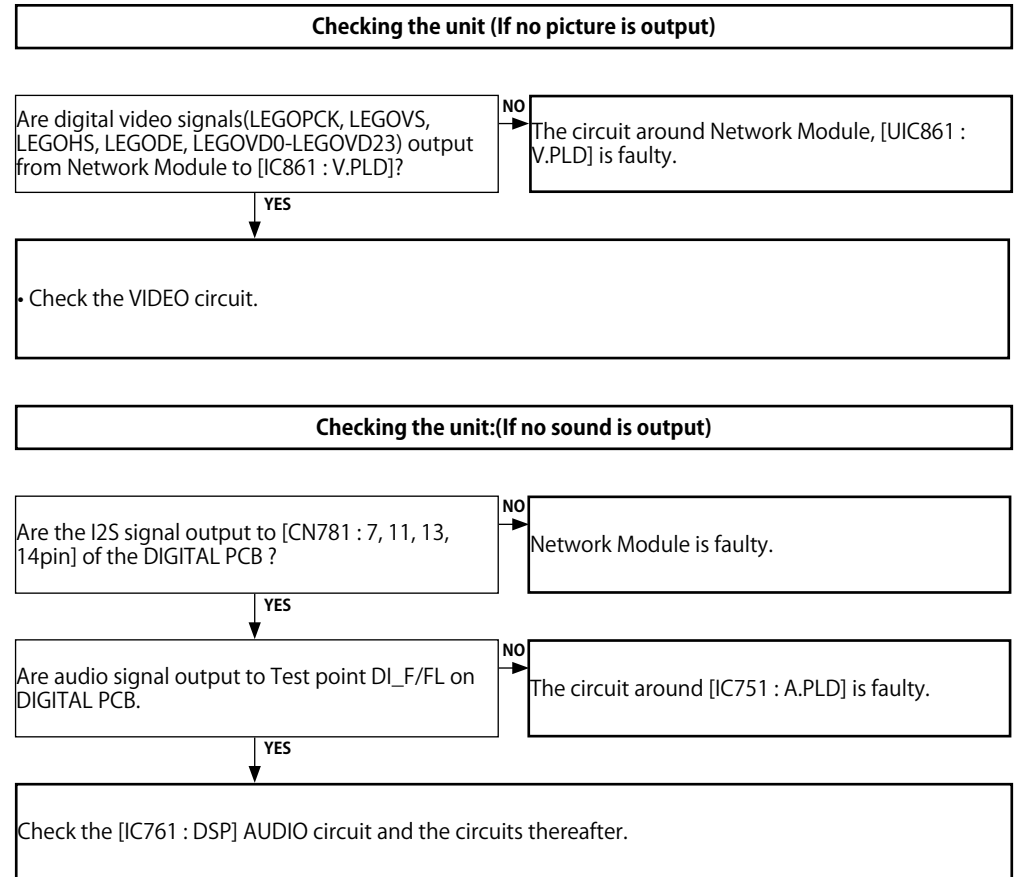
5.2. Cannot establish a Bluetooth connection



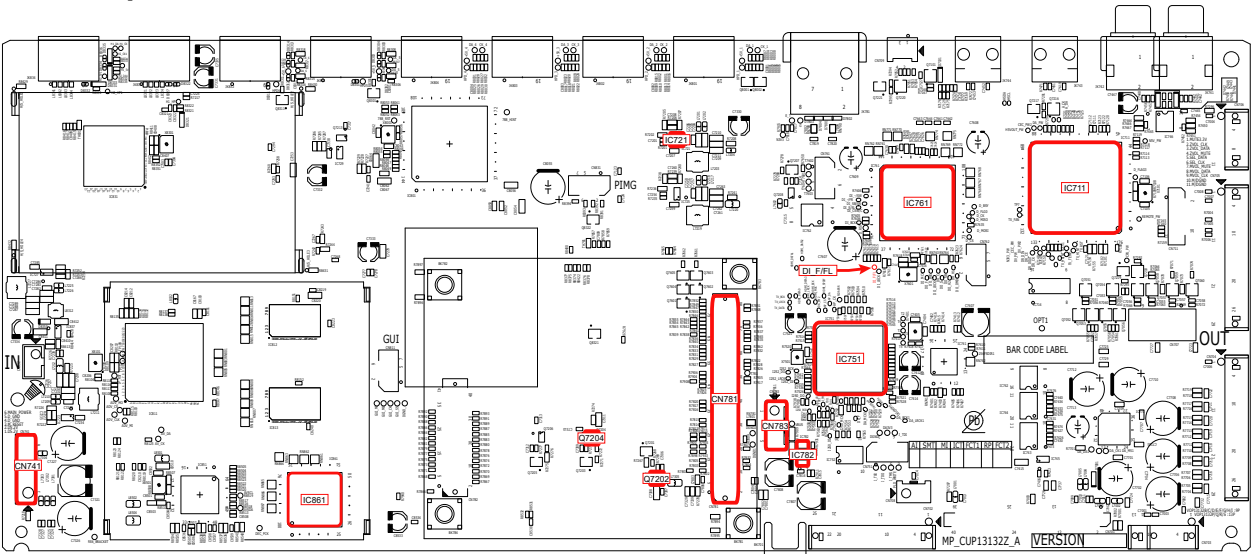
5.3. Cannot recognize the connected USB device



5.4. No picture or sound is output

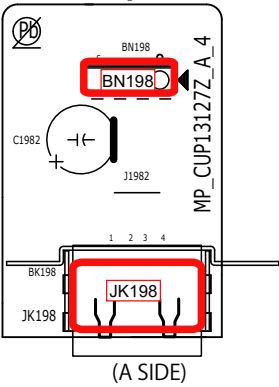


DIGITAL test point

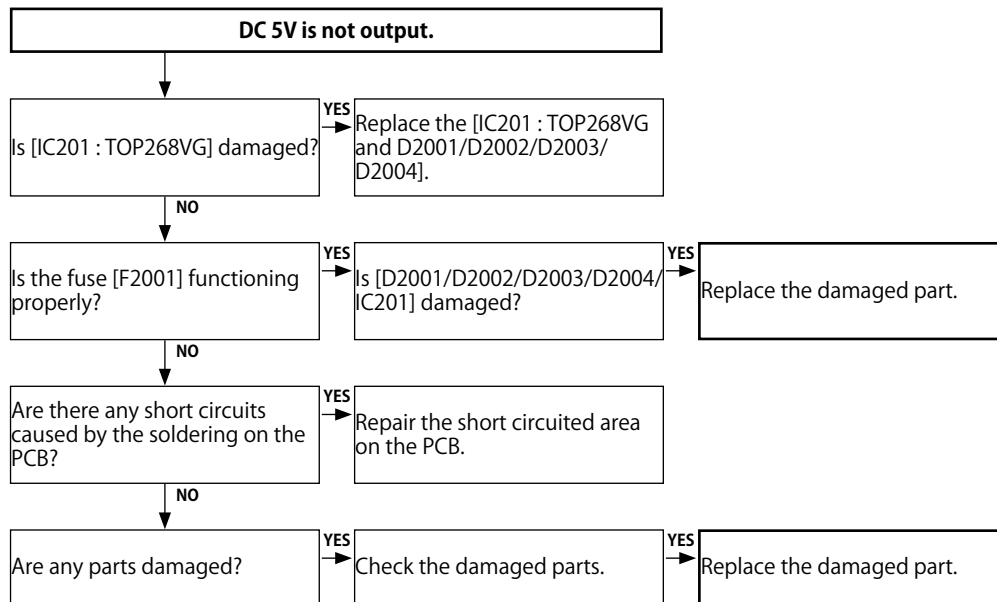


(A SIDE)

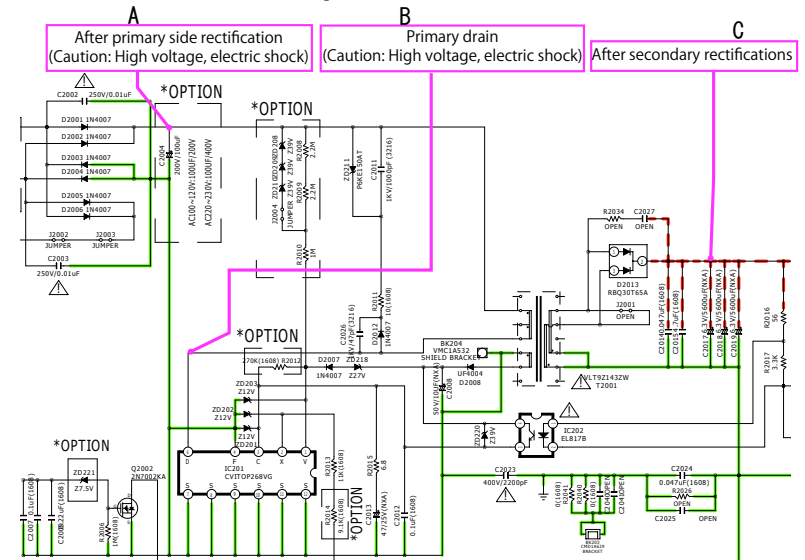
USB test point



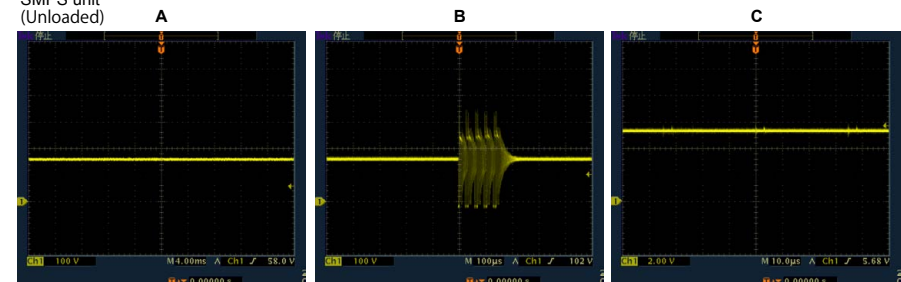
6. SMPS



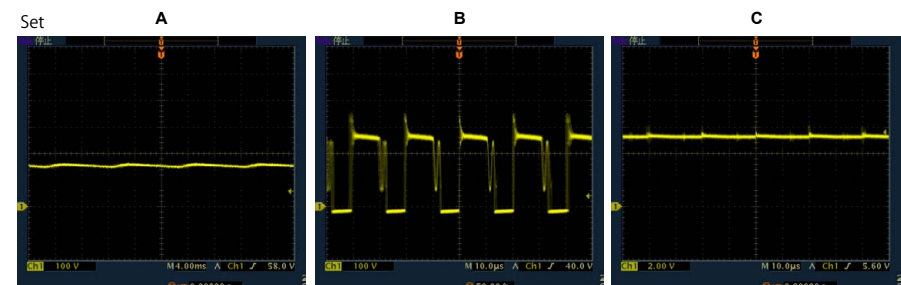
Operation waveform for each part



SMPS unit
(Unloaded)

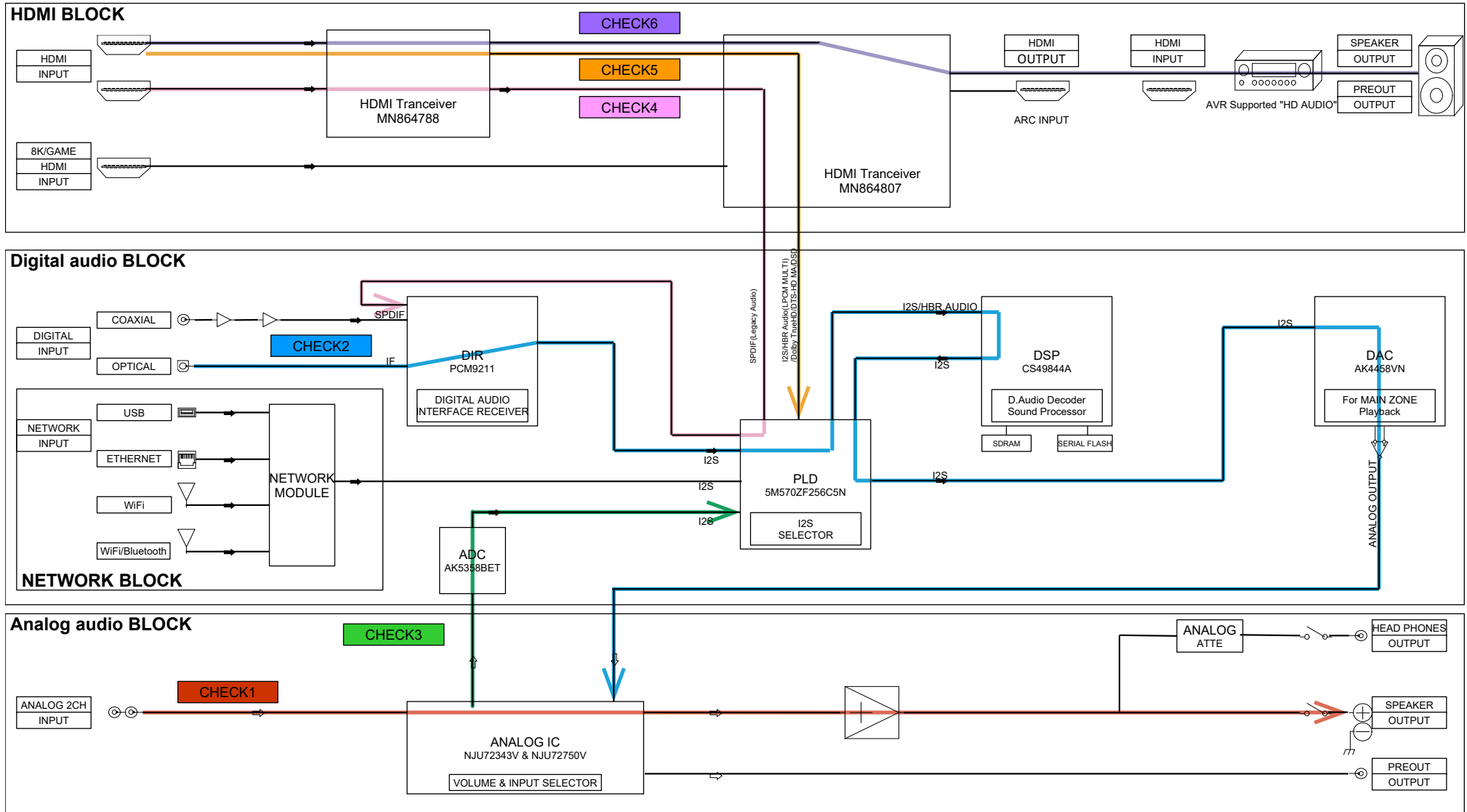


Set



AUDIO CHECK PATH

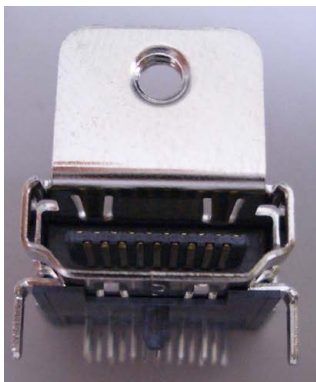
➔: Digital Signal
➞: Analog Signal



HDMI "Rx/Tx" Failure Detection

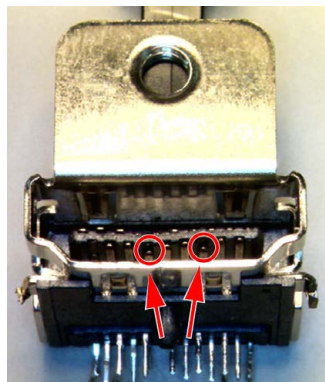
1. Prior checking

Check item(1.) : Checking the HDMI connector
Checking the condition of the HDMI pin (rear/front).



OK

Check for deformed pins.



NG

There are deformed pins.

Replace the HDMI connector.

None of the pins are deformed.

Check by following the flow chart for "[3. Starting detecting the point of failure](#)".

NOTE :

After checking troubleshooting "[3. HDMI/DVI](#)", check "[3. Starting detecting the point of failure](#)".

2. Preparations for checking HDMI Switcher reception/transmission register

2-1. Necessary devices

- 1) Check the product settings.
- 2-a) Player with an HDMI terminal
- 2-b) TV with an HDMI terminal (* NOTE : Do not use a computer monitor.)
- 3) Windows PC
- 4) Serial communication software "Termite.exe"
(Download the software from http://www.compuphase.com/software_termite.htm and install it.)
- 5) HDMI cable
- 6) RS-232C Straight cable
- 7) 8U-210100S WRITING KIT
- 8) oscilloscope

2-2. Device Connection Method

Connect the TV and the AVR to the player using an HDMI cable and connect the AVR to the PC through an RS-232C cable as shown in Figure 1.

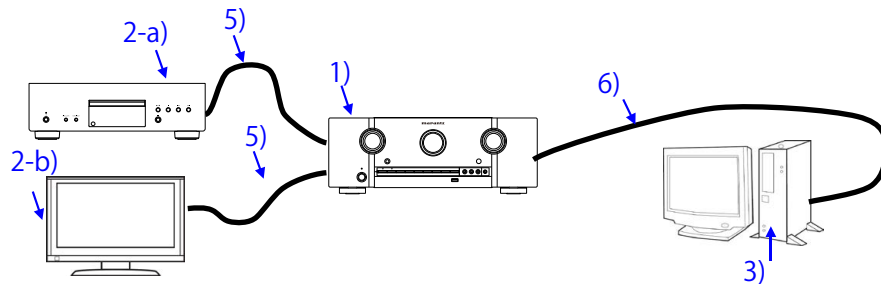


Figure 1. Device Connection Method

2-3. Device configuration method

PC settings : Execute the serial communication program, Termite.exe.

After executing Termite.exe, click [Settings].

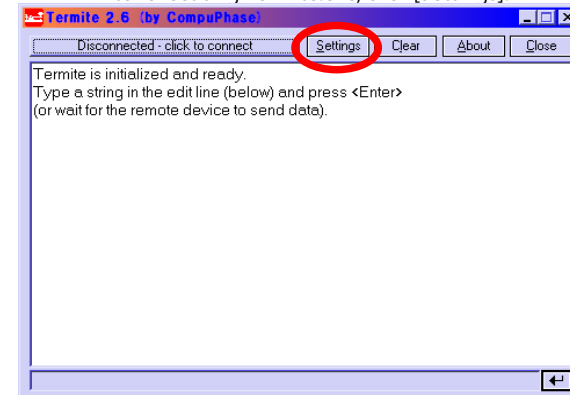


Figure 2. Screen After Executing Termite.exe

The serial port setup screen will be displayed.

Configure the settings as shown in Figure 3 and click the "OK" button.

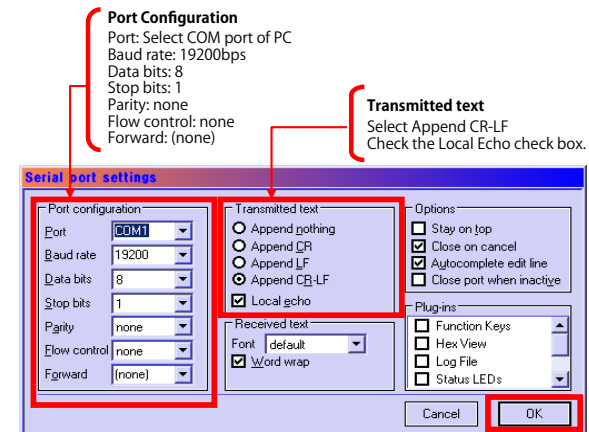


Figure 3. Serial Port Setup Screen

Click the [click to connect] button to start communication.
After a connection is established successfully, the display of the button name will change as shown in Figure 4.

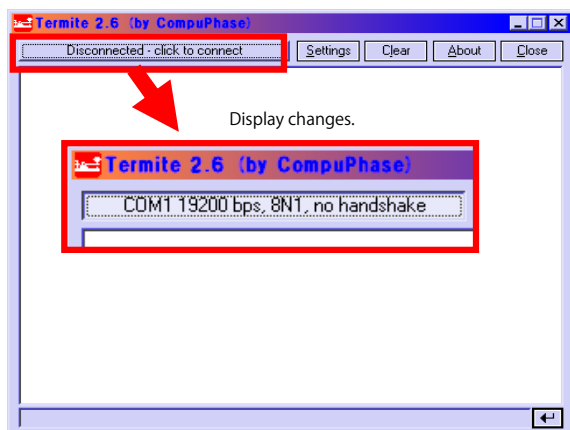


Figure 4. Change of the Display of the Communication Start Button Name

TV settings : Switch to the HDMI input in the AVR connection.
Player settings : Turn the unit power on and configure it to play disks.
AVR settings : While the power is On, hold down buttons "**DIMMER**" and "**STATUS**" for at least 3 seconds.
(Continue to press and hold the buttons until all segments of the FLD volume illuminate.)
※ When the power is turned on after initialization, "**Setup Assistant**" will be displayed.
After exiting "**Setup Assistant**" execute the above.

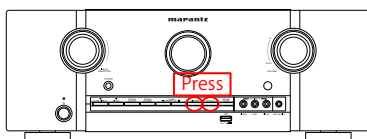


Figure 6-1. AVR settings

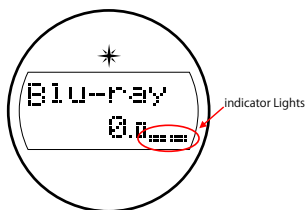


Figure 6. FLD Display When Set

When the settings are correct, the following message will be displayed in the window of Termite.
[00]Start Sub CPU Log Mode

(**** is a version of Sub CPU.)

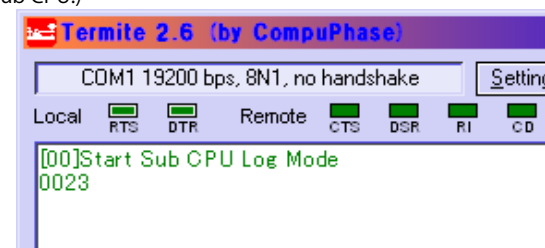


Figure 7. Display of Termite When AVR is Set

The setup is now complete.

Method for sending commands
Enter the command in the transmission command entry section, click the [Send] button and send the command.

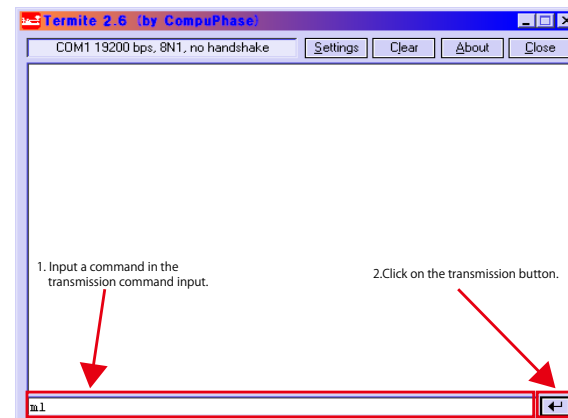


Figure 8. Method for Sending Termite Commands

3. Starting detecting the point of failure

Check item(3.1.).

Check the power supply status and communication status with the CPU of each device.
Start in HDMI Diagnostics mode and follow the procedures below.

Start in HDMI Diagnostics mode

While the power is on, hold down buttons "**DIMMER**" and "**SOUND MODE**" for at least 3 seconds.

L1	HDMI
L2	DIAG

↓ "HDMI DIAGNOSTICS" is displayed.

When the mode has switched, start Hardware Check.

L1	Hardware
L2	Check...



Display when an Error is detected.

L1	ErrH1-XX
L2	Contact support

L2 : Content of the display is scrolled.
Check the Error Code table items.

Error Code table

Error Code	Check item No.	Description
H1-01	Check item (3-1.1.)	Communication Error with HDMI Tx [IC831 : MN864807]
H1-02	Check item (3-2.1.)	Communication Error with HDMI SW [IC801 : MN864788]
H1-06	Check item (3-3.1.)	Communication Error with GUI IC [IC811 : ADV8003]
H1-05	Check item (3-6.1.)	Communication Error with VIDEO DECODER [IC851 : ADV7180]
H1-08	Check item (3-7.1.)	Communication Error with DSP [IC761 : CS49844A]
H1-12	Check item (3-8.1.)	Communication Error with DIR [IC741 : PCM9211]
H1-14	Check item (3-4.1.)	DDR check Error [IC812/IC813 : A3R12E40DBF-8E]
H1-15	Check item (3-5.1.)	Communication Error with GUI ROM [IC814 : BY25Q128ASFIG]

Display when an Error is not detected.

L1	1 Auto
L2	Test

Cancel the mode, and proceed to [check item \(3.2.\)](#).

Canceling the selected mode
Press the power button to exit off the power.

Check item(3.2). : Check operation of the HDMI input terminal.



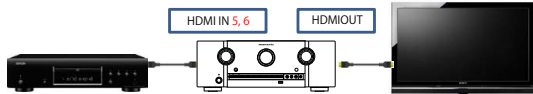
When the HDMI input terminal of this device is connected to the player correctly, is sound heard from the speaker?

※ When checking, turn the AV amplifier on and off after checking the connection terminal with the player. (To set the same conditions during verification of operation)

Check that sound is heard from the input terminal of the HDMI 5, 6.
Use any of Dolby TrueHD/DTSHD MA/PCM 8ch for the playback audio format.

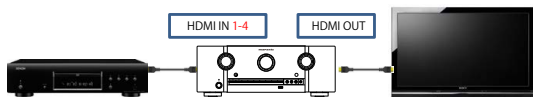
Is the "DIG" indicator illuminated on the FLD?
When the "DIG" indicator is illuminated, the digital audio block is faulty.
If the "DIG" indicator is not illuminated, go to [check item \(3-9.1.\)](#).
(HDMI の Tx [MN864807] failure detection procedure1)

Check item(3.3). :
Does a video signal come from HDMI OUT to TV correctly?



Go to [check item \(3-10.1.\)](#).
HDMI Tx IC [MN864807] failure detection procedure2

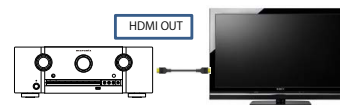
Check item(3.4). :
(1) Turn Video Mode "Bypass" on the setup menu.
(Setup Menu - Video - Output Setting - Video Mode)
(2) Does a video signal come from HDMI OUT1 to TV correctly?



When the player is connected in order to the HDMI input terminals (HDMI1 - 4), in each case is the player video played back on the TV connected to the HDMI output terminal (HDMI OUT1, 2)?

Go to [check item \(3-11.1.\)](#).
(HDMI SW IC [MN864788] failure detection procedure)

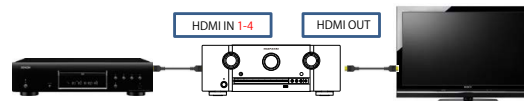
Check item(3.5). : Check operation of the HDMI output terminal.



When the "SETUP" button on a remote control is pressed, is "MENU" displayed on TV which is connected to the HDMI output terminal on the AVR?

Go to [check item \(3-12.1.\)](#).
(GUI IC [ADV8003] failure detection procedure1)

Check item(3.6). :
(1) Turn Video Mode "Auto" on the setup menu.
(Setup Menu - Video - Output Setting - Video Mode)
(2) Does a video signal come from HDMI OUT1 to TV correctly?



When the player is connected to the HDMI input terminals in order, are the images on the player displayed on the TV in both cases?

Go to [check item \(3-13.1.\)](#).
(GUI IC [ADV8003] failure detection procedure2)

There is no problem with Rx, Tx, and GUI of HDMI as well as IC of SW.

3-1. Error Code H1-01 failure detection procedure

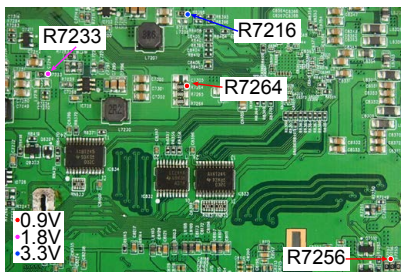
Checking device. [IC831 : MN864807]

Check the power supply voltage. (HDMI Tx)

Check item(3-1.1). Check the power supply voltage. :

Does the power supply voltage of the HDMI Tx [IC831] indicate the correct voltage (0.9V x2, 1.8V, 3.3V)?
The test points are as follows.

HDMI Tx



YES

NO

Check item(3-1.2). Check the power supply voltage. :
Check the power components [IC722/IC724/IC727/IC728] and the pattern on the substrate.

If there is no problem, remove the HDMI Tx [IC831] from the substrate and measure the voltage at the test point of **check item (3-1.1)**.

Is the voltage correct (0.9V x2, 1.8V, 3.3)?

YES

NO

Replace with a new device.

The power supply circuit is faulty.
Replace the PCB.

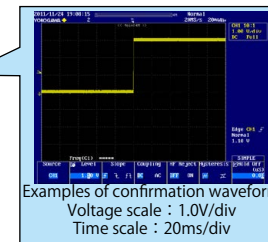
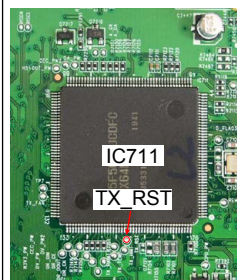
Recheck from **check item (3.1.)**.
If it does not work, replace the PCB.

Checking the reset waveform. (HDMI Tx)

Check item(3-1.3). Checking the reset waveform :
Check the waveform.

Is the "TX_RST" waveform of the TP near the CPU [IC711] correct (like the one shown in the diagram) when the power is turned on?

HDMI Tx

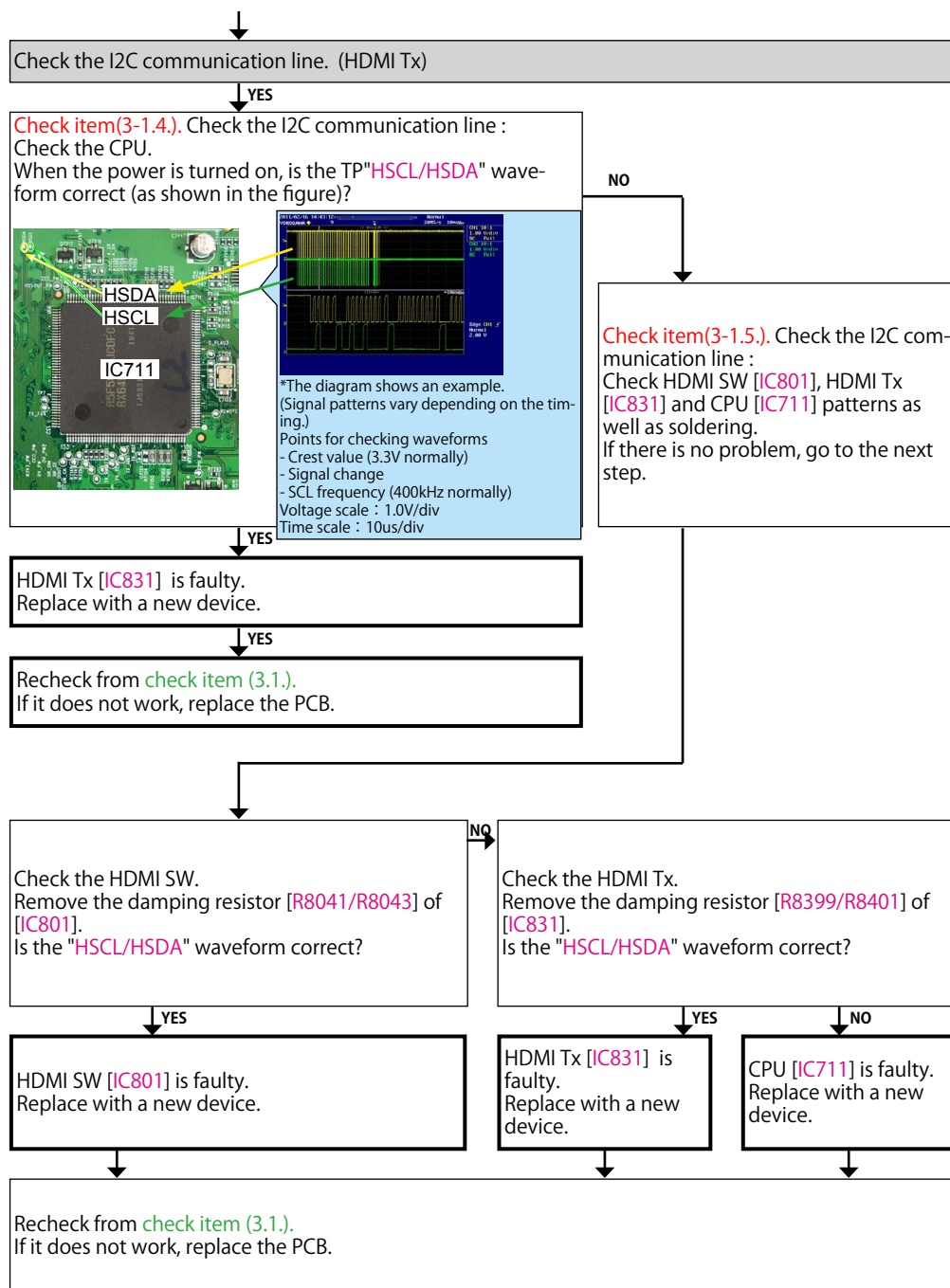


NO

Check the reset circuit between CPU [IC711] and HDMI Tx [IC831].
If there is no problem, the HDMI Tx [IC831] is faulty.
Replace with a new device.
Recheck from **check item (3.1.)**.
If it does not work, replace the PCB.

YES

Go to next page.



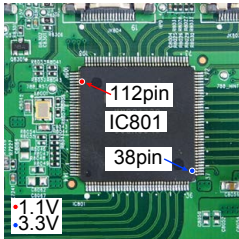
3-2. Error Code H1-02 failure detection procedure

Checking device. [IC801 : MN864788]

Check the power supply voltage. (HDMI SW)

Check item(3-2.1). Check the power supply voltage. :
Does the power supply voltage of the HDMI SW [IC801] indicate the correct voltage (1.1V, 3.3V)?
The test points are as follows.

HDMI Rx1



YES

NO

Check item(3-2.2). Check the power supply voltage. :
Check the power components [IC722/IC724/IC727/IC728] and the pattern on the substrate.
If there is no problem, remove the HDMI SW [IC801] from the substrate and measure the voltage at the test point of **check item (3-2.1)**.
Is the voltage correct (1.1V or 3.3V)?

YES

Replace with a new device.

NO

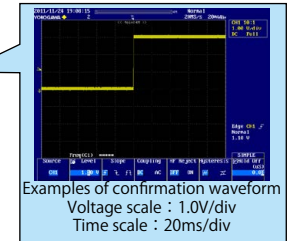
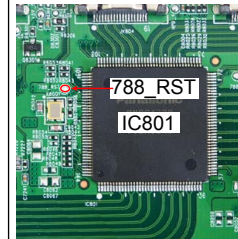
The power supply circuit is faulty.
Replace the PCB.

Recheck from **check item (3.1)**.
If it does not work, replace the PCB.

Checking the reset waveform. (HDMI SW)

Check item(3-2.3). Checking the reset waveform :
Check the waveform.
When the power is turned on, is the TP"788_RST" waveform correct (as shown in the figure)?

HDMI Rx1

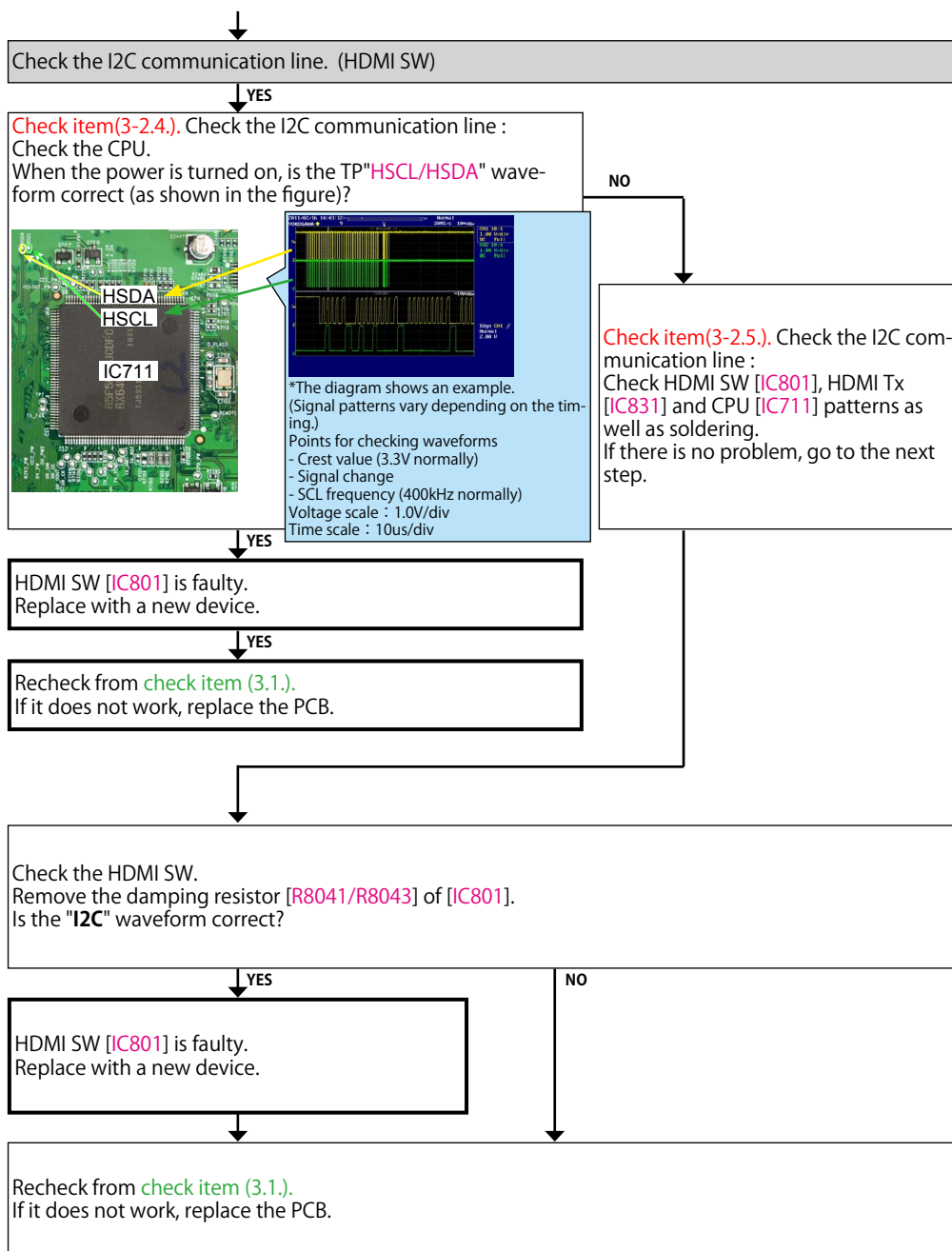


NO

Check the reset circuit between CPU [IC711] and HDMI SW [IC801].
If there is no problem, the HDMI SW [IC801] is faulty.
Replace with a new device.
Recheck from **check item (3.1)**.
If it does not work, replace the PCB.

YES

Go to next page.



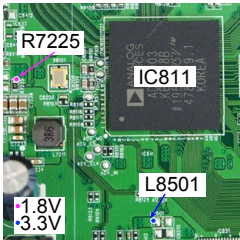
3-3. Error Code H1-06 failure detection procedure

Checking device. [IC811 : ADV8003]

Check the power supply voltage.

Check item(3-3.1.). Check the power supply voltage. :

Does the power supply voltage of the GUI [IC811] indicate the appropriate voltage (1.8V, 3.3V)?
The test points are as follows.



YES

NO Check item(3-3.2.). Check the power supply voltage. :

Check the power supply components [IC723/ Q7206] on the substrate and peripheral pattern. If there is no problem, remove the GUI [IC811] from the substrate and measure the voltage at the test point of check item (3-3.1.). Is the voltage correct (1.8V or 3.3V)?

YES

The power supply circuit is faulty.
Replace the PCB.

NO

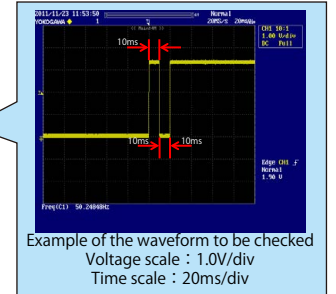
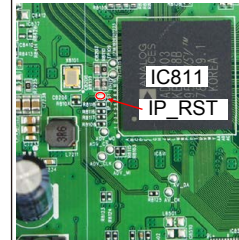
GUI [IC811] is faulty.
Replace with a new device.

Recheck from check item (3.1.).
If it does not work, replace the PCB.

Checking the reset waveform.

Check item(3-3.3.). Checking the reset :
Check the CPU.

When the power is turned on, is the TP"IP_RST" waveform correct (as shown in the figure)?



Example of the waveform to be checked
Voltage scale : 1.0V/div
Time scale : 20ms/div

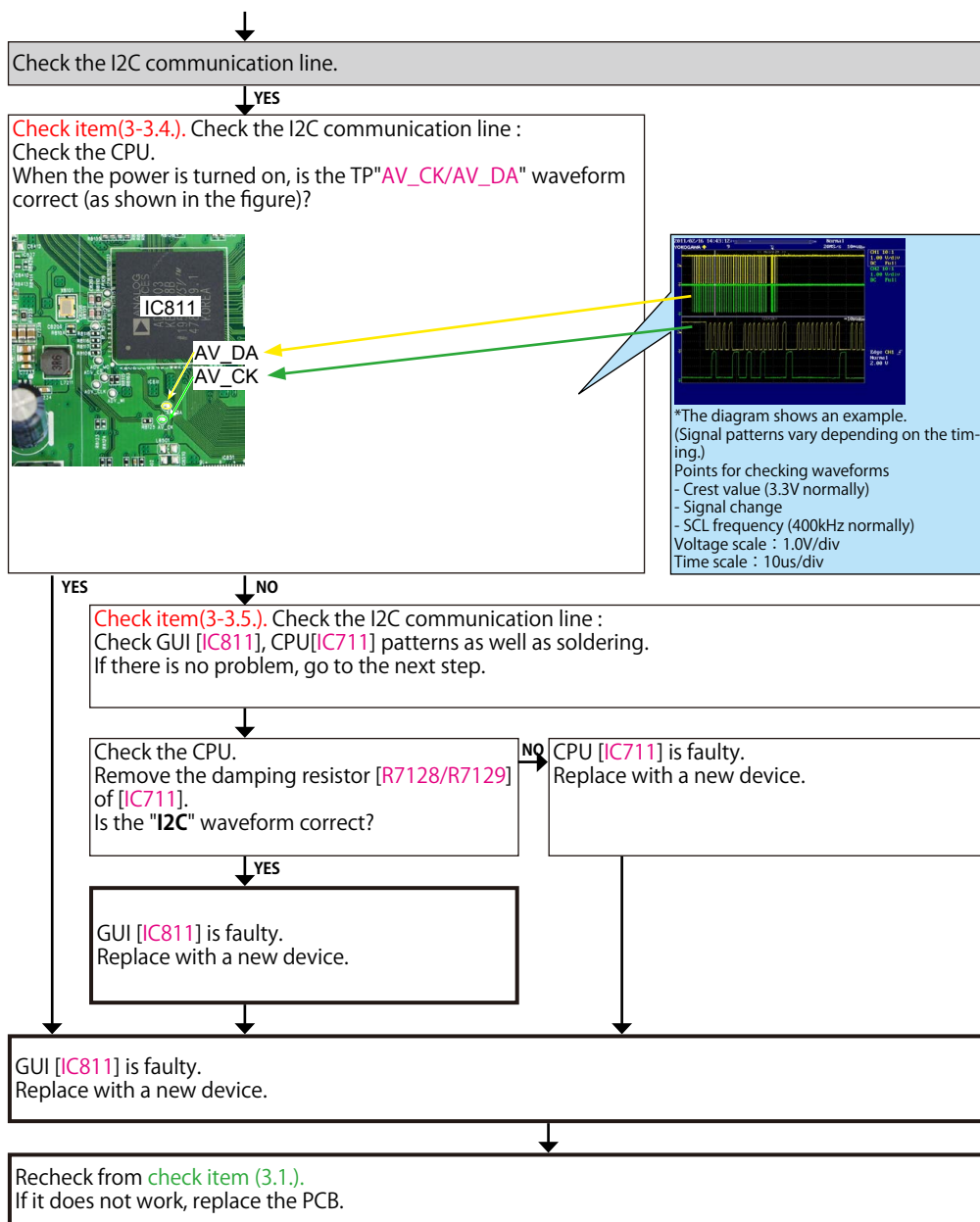
YES

NO

Check the reset circuit between CPU [IC711] and GUI [IC811].
If there is no problem, the GUI [IC811] is faulty.
Replace with a new device.

Recheck from check item (3.1.).
If it does not work, replace the PCB.

Go to next page.



3-4. Error Code H1-14 failure detection procedure

Checking device. [IC812/IC813 : A3R12E40DBF-8E]

Check item(3-4.1).

Check soldering of IP SCALER [IC811], DDR2 [IC812/IC813] and its peripheral circuits.
Check soldering of the resistors [e.g. R8140, RN801] between IP SCALER and DDR2.
If there is no problem with soldering, [IC811/IC812/IC813] is defective. Replace their IC. Or replace the substrate.

3-5. Error Code H1-15 failure detection procedure

Checking device. [IC814 : BY25Q128ASFIG]

Check item(3-5.1).

Write to the GUI ROM.

Recheck from [check item \(3.1.\)](#).
Does Error Code H1-15 continue?

NO

YES

Check item(3-5.2).

Replace [IC814] with a new device.

Recheck from [check item \(3.1.\)](#).
Does Error Code H1-15 continue?

NO

YES

Go to [check item \(3-3.1.\)](#).

Recheck from [check item \(3.2.\)](#).

3-6. Error Code H1-05 failure detection procedure

Checking device. [IC851 : ADV7180]

Check item(3-6.1).

Replace [IC851] with a new device.

Recheck from [check item \(3.1.\)](#).
Does Error Code H1-05 continue?

NO

YES

Replace the PCB.

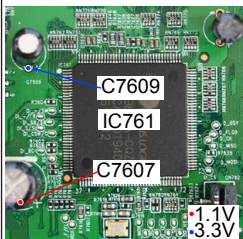
Recheck from [check item \(3.2.\)](#).

3-7. Error Code H1-08 failure detection procedure

Checking device. [IC761 : CS49844A]

Check the power supply voltage.

Check item(3-7.1). Check the power supply voltage.
Does the power supply voltage of the DSP [IC761] indicate the appropriate voltage (1.0V, 3.3V)?
The test points are as follows.



YES

Check item(3-7.2). Check the power supply voltage.
Check the power supply components [IC725/ Q7208] on the substrate and peripheral pattern. If there is no problem, remove the DSP [IC761] from the substrate and measure the voltage at the test point of **check item (3-7.1)**. Is the voltage correct (1.0V or 3.3V)?

YES

NO

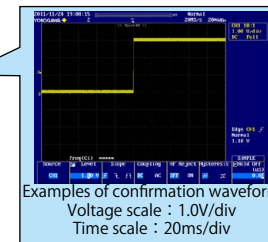
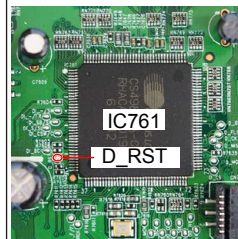
The power supply circuit is faulty.
Replace the PCB.

DSP [IC761] is faulty.
Replace with a new device.

Recheck from **check item (3.1)**.
If it does not work, replace the PCB.

Checking the reset waveform.

Check item(3-7.3). Checking the reset :
Check the CPU.
When the power is turned on, is the TP"D_RST" waveform correct (as shown in the figure)?



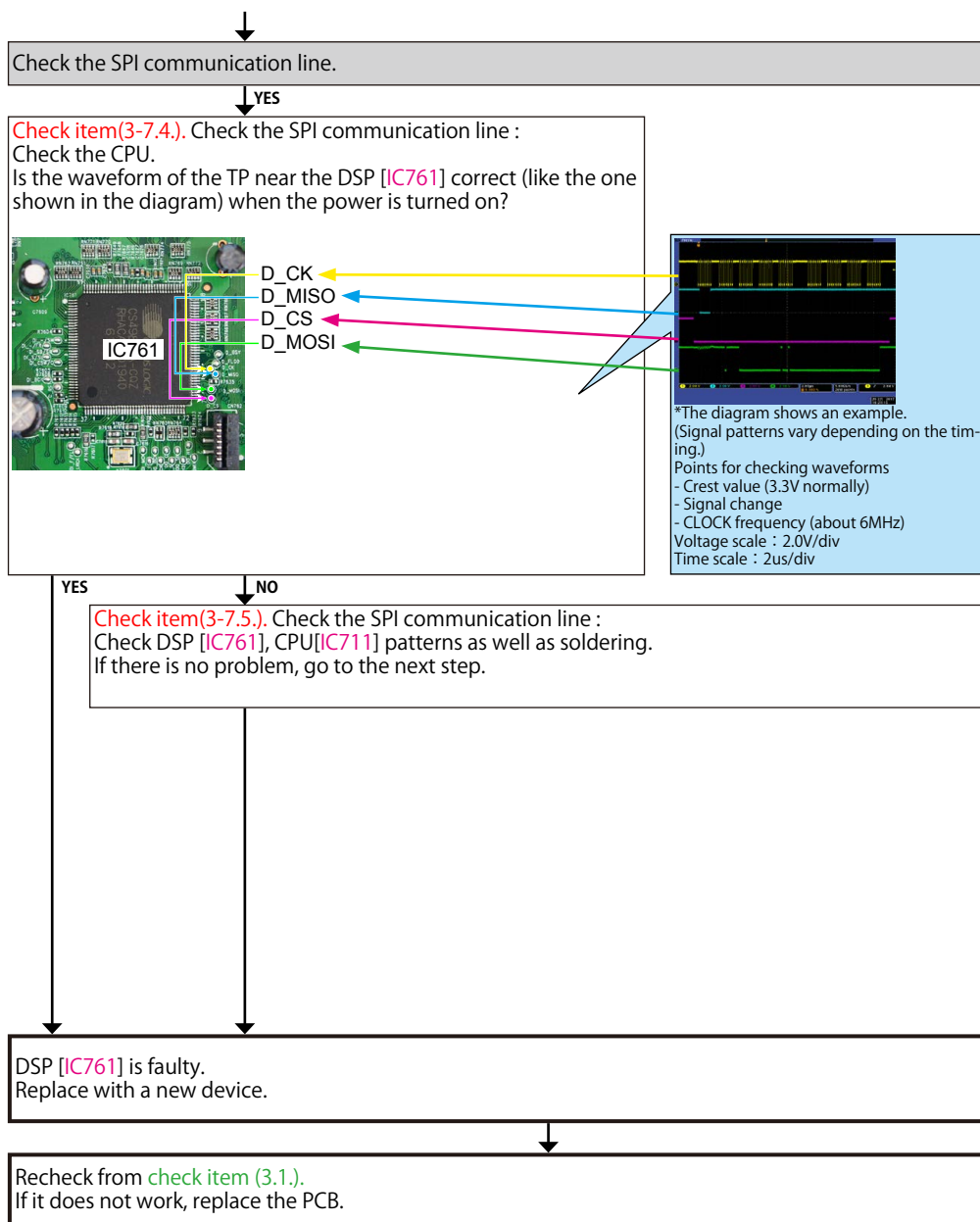
YES

NO

Check the reset circuit between CPU [IC711] and DSP [IC761].
If there is no problem, the DSP [IC761] is faulty.
Replace with a new device.

Recheck from **check item (3.1)**.
If it does not work, replace the PCB.

Go to next page.

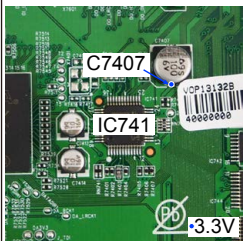


3-8. Error Code H1-12 failure detection procedure

Checking device. [IC741 : PCM9211]

Check the power supply voltage.

Check item(3-8.1). Check the power supply voltage.:
Does the power supply voltage of the DIR [IC741] indicate the appropriate voltage (3.3V)?
The test points are as follows.



YES

Check item(3-8.2). Check the power supply voltage.:
Check the power supply components [Q7208] on the substrate and peripheral pattern.
If there is no problem, remove the DIR [IC741] from the substrate and measure the voltage at the test point of **check item (3-8.1)**.
Is the power supply voltage correct (3.3V)?

YES

NO

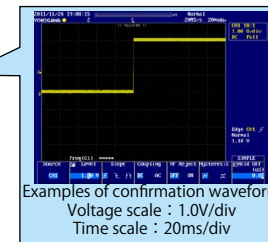
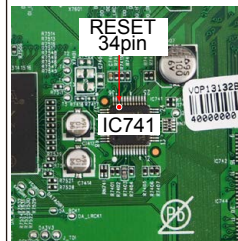
The power supply circuit is faulty.
Replace the PCB.

DIR [IC741] is faulty.
Replace with a new device.

Recheck from **check item (3.1)**.
If it does not work, replace the PCB.

Checking the reset waveform.

Check item(3-8.3). Checking the reset :
Check the CPU.
When the power is turned on, is the DIR [IC741 : 34pin] waveform correct (as shown in the figure)?



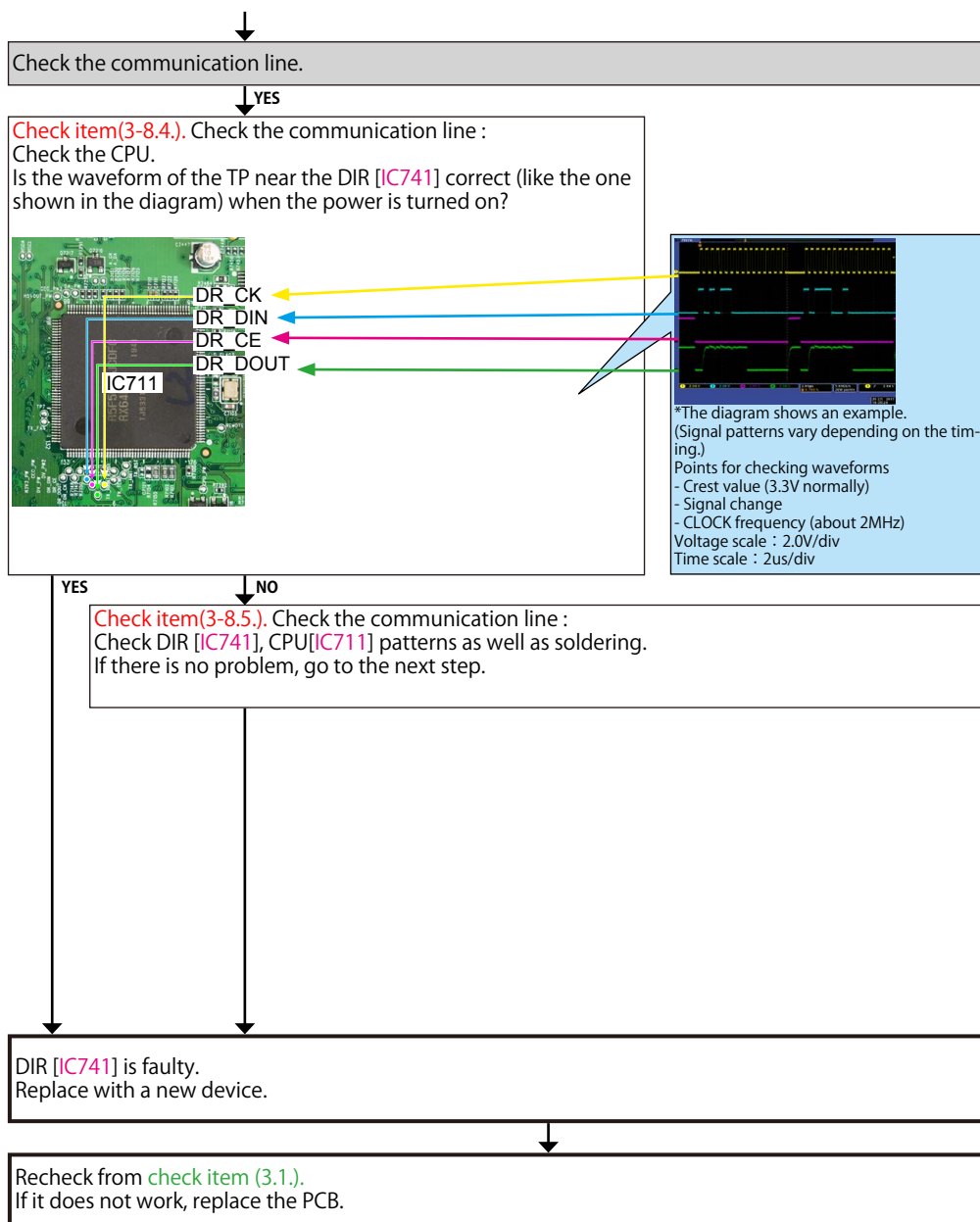
YES

NO

Check the reset circuit between CPU [IC711] and DIR [IC741].
If there is no problem, the DIR [IC741] is faulty.
Replace with a new device.

Recheck from **check item (3.1)**.
If it does not work, replace the PCB.

Go to next page.



3-9. HDMI Tx [MN864807] failure detection procedure1

Checking operation between the HDMI IN5, IN6 and the player



※ In order to check, connect the player to the HDMI terminal and configure the player as AVR source.
Check the sound output while turning on the player.

Checking the +5V/DDC status register

Check item(3-9.1). Checking the 5V status register :
Send the following command from Termite.exe.
Send the command "i 0000 00FF 0001".

Check the value.
Move to the branch destination according to the value returned.

Example

Termite 2.6 (by Com
COM1 19200 bps, 8N1.r
i 0000 00FF 0001
XX

"CX" (X=any)
(Detection of 5V is not OK.)

Go to [check item \(3-9.4.\)](#)

HDMI IN5 "EX" (X=any)
HDMI IN6 "DX" (X=any)
(Detection of 5V is OK)

Check item(3-9.2). Checking the status register :
Send the following command from Termite.exe.
Send the command "i 0003 0026 0001".

Check the value.
Move to the branch destination according to the value returned.

Example

Termite 2.6 (by Com
COM1 19200 bps, 8N1.r
i 0003 0026 0001
XX

"0E"
(Detection of DDC is OK)

Go to [check item \(3-9.6.\)](#)

"Other than 0E"
(Detection of DDC is not OK.)

Check item(3-9.3). Checking the status register :
Send the following command from Termite.exe.
Send the command "i 0005 0009 0001".

Check the value.
Move to the branch destination according to the value returned.

Example

Termite 2.6 (by Com
COM1 19200 bps, 8N1.r
i 0005 0009 0001
XX

"Other than 03"
(Detection of DDC is not OK.)

Go to [check item \(3-9.5.\)](#)

"03"
(Detection of DDC is OK)

Go to [check item \(3-9.6.\)](#)

When the results of check item (3-9.1.) are "**CX** (X=any)"
(Detection of 5V is not OK.)

Check the +5V voltage. (HDMI IN5, IN6)

Check item(3-9.4). Check the +5V voltage.
Does the test point indicate (5V)?
The test points are as follows.



NO

Check for a short circuit in the 5V line and
check the [JK831/JK832].
If there is no problem, the HDMI Tx [IC831] is
faulty.
Replace with a new device.

YES

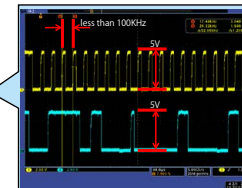
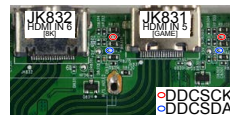
HDMI Tx [IC831] is faulty.
Replace with a new device.

Recheck from **check item (3.2.)**.
If it does not work, replace the PCB.

When the results of check item (3-9.3.) are "**Other than 03**"
(Detection of DDC is not OK.)

Check the DDC Line. (HDMI IN5, IN6)

Check item(3-9.5). Check the DDC line :
Are the "DDCSCK" and "DDCSDA" waveforms for the
signal correct (as shown in the figure)?
The test points are as follows.



This diagram shows an example of the DDC commu-
nication waveform.
-The high level voltage is 5V.
-The frequency of the DDC CLK is 100kHz or less.
Check at each test point.
Voltage scale : 2.0V/div
Time scale : 40us/div

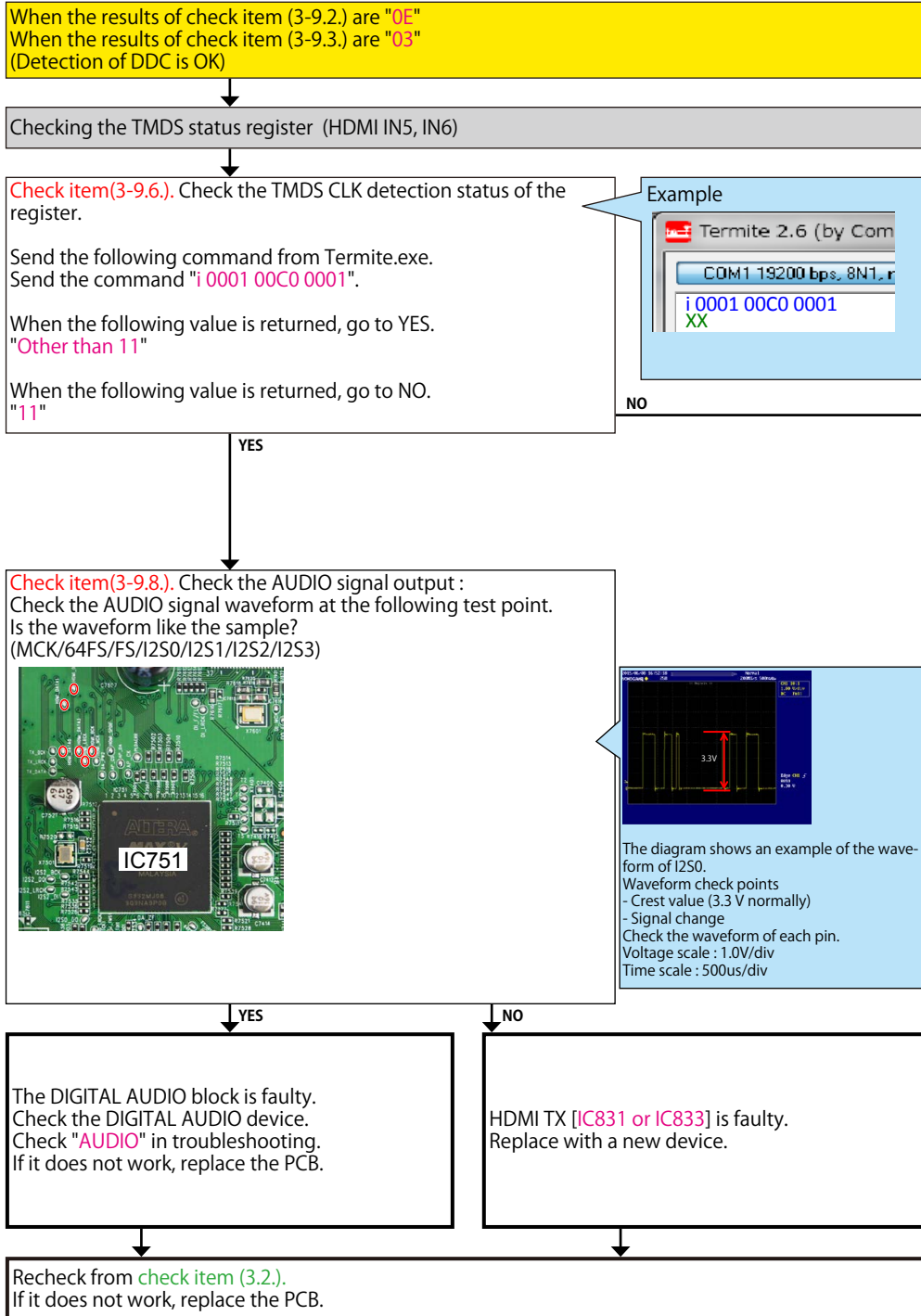
NO

Check for a short circuit in the DDC line and
check the [JK831/JK832].
If there is no problem, the HDMI Tx [IC831] is
faulty.
Replace with a new device.

YES

HDMI Tx [IC831] is faulty.
Replace with a new device.

Recheck from **check item (3.2.)**.
If it does not work, replace the PCB.



Check item(3-9.7.). Checking the TMDS input waveform. :
Check the TMDS waveform at the following test point.
Is the waveform like the sample?



JK831/JK832
1/3/4/6/7/9/10/12 pin

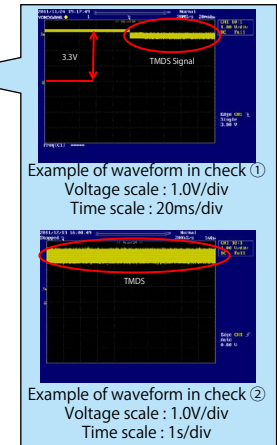
YES

HDMI Tx [IC831] is faulty.
Replace with a new device.

NO

Check for a short circuit in the TMDS line and check the [JK831/JK832].
If there is no problem, the HDMI Tx [IC831] is faulty.
Replace with a new device.

Recheck from **check item (3.2.)**.
If it does not work, replace the PCB.



3-10. HDMI Tx [MN864807] failure detection procedure2

Check the output terminal.

Check item(3-10.1). Check the video output port for failure. :
Check the OUT 1 output video signal is correct.

After checking the OUT 1, change the HDMI cable connection from OUT1 to OUT2.
Turn off the AV AMP and turn it on again.
To check under the same conditions, use the same procedure as that for checking OUT 1 when checking the OUT 2 output.

No video signal is output from both OUT 1 and OUT 2.
Also, No video signal is output from OUT 1 only.

Go to **check item (3-10.2).**

No video signal is output from OUT 2 only.

Go to **check item (3-10.7).**

Checking between Monitor1 and the TV.
Connect Monitor1 to the TV and check the following items with the TV turned on.

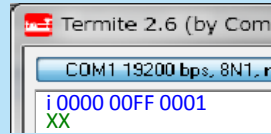
Checking the HPD status register (HDMI Tx -> TV)

Check item(3-10.2). Check the HPD register value of the HDMI TX device. :
Send the following command from Termite.exe.

Send the command "**i 0000 00FF 0001**".

Move to the branch destination according to the value returned.

Example



```
Termite 2.6 (by Com
COM1 19200 bps, 8N1, r
i 0000 00FF 0001
XX
```

"**X2**" (X=any)
(Detection of HPD is OK)

Go to **check item (3-10.3).**

"**X0**" (X=any)
(Detection of HPD is not OK.)

Go to **check item (3-10.6).**

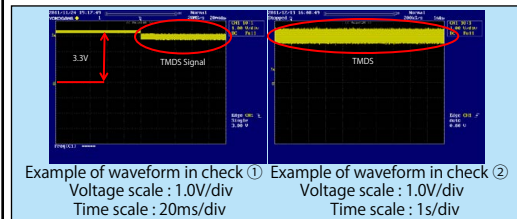
When the results of check item (3-10.2.) are "X2 (X=any)"
(Detection of HPD is OK)

Checking the EDID register. (HDMI OUT1)

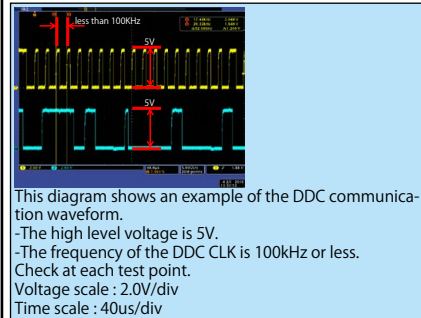
Check item(3-10.3.). Check the Monitor EDID :

- ① Unplug the AC cord. Plug the AC cord into a power outlet.
 - ② Send the transmission command "m_1" from Termite.exe.
- Are the first eight bytes of the returned value "00FFFFFFF00"?

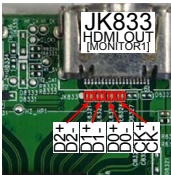
YES



NO



Check item(3-10.4.). Checking the TMDS :
Check the TMDS waveform at the following test point.



YES

NO

Check for a short circuit in the TMDS line.
If there is no problem, the HDMI Tx
[IC831] is faulty.
Replace with a new device.

HDMI Tx [IC831] is faulty.
Replace with a new device.

Recheck from check item (3.3.).
If it does not work, replace the PCB.

Check item(3-10.5.). Check the communication :
Are the waveforms for "CLK" and "DATA" at the
test point near the HDMI output connector
[JK833] correct (as shown in the figure)?



DDCCLK
DDCSDA

YES

NO

Check for a short circuit in the DDC line.
If there is no problem, the HDMI Tx
[IC831] is faulty.
Replace with a new device.

HDMI Tx [IC831] is faulty.
Replace with a new device.

Example

```
Termite 2.6 (by CompuPhase)
COM1 19200 bps, 8N1, no handshake
m_1
00FFFFFFF000D1177945540000
3213010380351E782E6085A6564A9C25
125054A56808180810081C0A9C08140
D1C61C0B300023A801871382D40582C
4500132B2100001E000000FF00394339
```

The first eight bytes are normally "00FFFFFFF00".
The correct resistor value cannot be checked if the AVR and TV are not connected by HDMI.

When the results of check item (3-10.2.) are "X0 (X=any)"
(Detection of HPD is not OK.)

Check the HPD. (HDMI OUT1)

Check item(3-10.6.). Checking the HPD :
Is "Hi(3-5V)" indicated for "19pin"(HPD) in the HDMI output terminal
[JK833]?



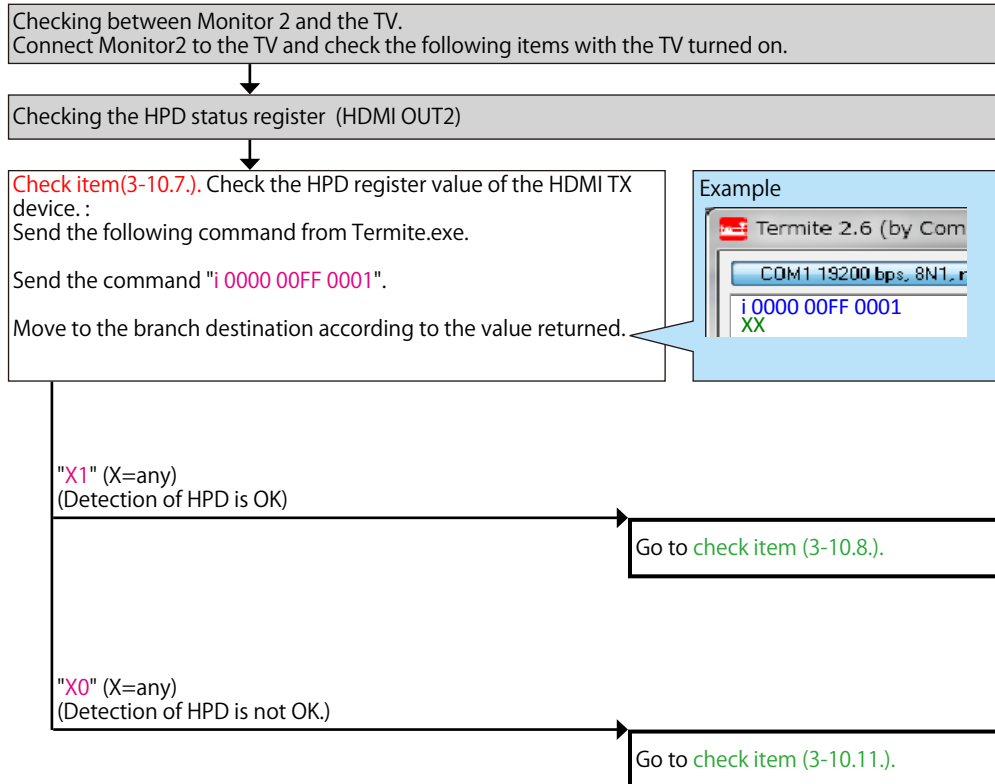
YES

NO

Check for a short circuit in the HPD line.
If there is no problem, the HDMI Tx [JK833] is faulty.
Replace with a new device.

HDMI Tx [IC831] is faulty.
Replace with a new device.

Recheck from check item (3.3.).
If it does not work, replace the PCB.



When the results of check item (3-10.7.) are "X1 (X=any)"
(Detection of HPD is OK)

Checking the EDID register. (OUT2)

Check item(3-10.8.). Check the Monitor EDID :

- ① Unplug the AC cord. Plug the AC cord into a power outlet.
 - ② Send the transmission command "m_2" from Termite.exe.
- Are the first eight bytes of the returned value "00FFFFFFF00"?

Example

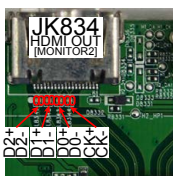
```
Termite 2.6 by CompuPhase
COM1 19200 bps, 8N1, no handshake
m_2
00FFFFFFF0009b1177945540000
3213010380151E782E6085A6564A9C25
125054A56B08180810081C0A9C08140
D1C061C0B300023A801871382D40582C
4500132B2100001E000000FF00394339
```

The first eight bytes are normally "00FFFFFFF00".
*If the AVR and the TV are not connected via HDMI, the correct register value cannot be verified.

YES

NO

Check item(3-10.9.). Checking the TMDS :
Check the TMDS waveform at the following test point.



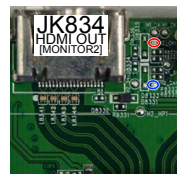
YES

NO

Check for a short circuit in the TMDS line.
If there is no problem, the HDMI Tx [IC831] is faulty.
Replace with a new device.

HDMI Tx [IC831] is faulty.
Replace with a new device.

Check item(3-10.10.). Check communication with the monitor :
Are waveforms of "DDCSCK" and "DDCSDA" observed at the test point near the HDMI output terminal [JK834]?



DDCSCK
DDCSDA

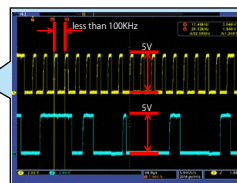
YES

NO

HDMI Tx [IC831] is faulty.
Replace with a new device.

HDMI Tx [IC831] is faulty.
Replace with a new device.

Recheck from check item (3.3.).
If it does not work, replace the PCB.



This diagram shows an example of the DDC communication waveform.
-The high level voltage is 5V.
-The frequency of the DDC CLK is 100kHz or less.
Check at each test point.
Voltage scale : 2.0V/div
Time scale : 40us/div

When the results of check item (3-10.7.) are "X0 (X=any)"
(Detection of HPD is not OK.)

Check the HPD. (OUT2)

Check item(3-10.11.). Checking the HPD :
Does the voltage of HPD test point close to the HDMI output terminal
[JK834] indicate Hi (3-5V)?



YES

NO

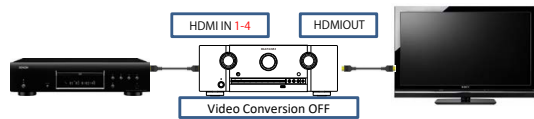
Check for a short circuit in the HPD line.
If there is no problem, the HDMI Tx [JK834] is faulty.
Replace with a new device.

HDMI Tx [IC831] is faulty.
Replace with a new device.

Recheck from check item (3.3.).
If it does not work, replace the PCB.

3-11. HDMI SW IC [MN864788] failure detection procedure

Checking operation between the HDMI (SW) device and the HDMI device (Tx).



Checking the TMDS status register (HDMI SW -> HDMI Tx)

Check item(3-11.2). Check the TMDS CLK detection status of the register.

Send the following command from Terminate.exe.

Send the command "i 0001 00C1 0001".

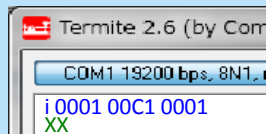
When the following value is returned, go to YES.

"Other than 11"

When the following value is returned, go to NO.

"11"

Example



YES

HDMI Tx [IC831] is faulty.
Replace with a new device.

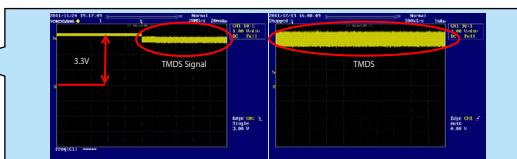
Recheck from **check item (3.4.)**.
If it does not work, replace the PCB.

NO

Check item(3-11.3). Checking the TMDS input :
TMDS waveform at the following points.



Between HDMI SW and HDMI Tx
80/81/83/84/86/87/89/90 pin



Example of waveform in check ① Voltage scale : 1.0V/div Time scale : 20ms/div
Example of waveform in check ② Voltage scale : 1.0V/div Time scale : 1s/div

YES

HDMI Tx [IC831] is faulty.
Replace with a new device.

YES

Recheck from **check item (3.4.)**.
If it does not work, replace the PCB.

NO

If it is No between HDMI SW and HDMI Tx.
HDMI SW [IC801] is faulty.
Replace with a new device.

3-12. GUI IC [ADV8003] failure detection procedure1

Checking the TMDS status register (GUI -> HDMI Tx)

Check item(3-12.1). Check the TMDS CLK detection status of the register.

Send the following command from Terminate.exe.

Send the command "i 0001 00C1 0001".

When the following value is returned, go to YES.

"Other than 11"

When the following value is returned, go to NO.

"11"

Example

Terminate 2.6 (by Com
COM1 19200 bps, 8N1, r
i 0001 00C1 0001
XX

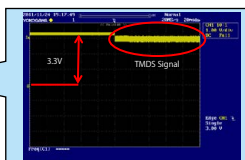
NO

YES

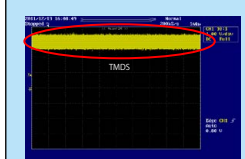
HDMI Tx [IC831] is faulty.
Replace with a new device.

Recheck from **check item (3.5).**
If it does not work, replace the PCB.

Check item (3-12.2). Checking the TMDS input. :
TMDS waveform at the following points.



Example of waveform in check ①
Voltage scale : 1.0V/div
Time scale : 20ms/div



Example of waveform in check ②
Voltage scale : 1.0V/div
Time scale : 1s/div

YES

NO

HDMI Tx [IC831] is faulty.
Replace with a new device.

GUI [IC811] is faulty.
Replace with a new device.

Recheck from **check item (3.5).**
If it does not work, replace the PCB.

3-13. GUI IC [ADV8003] failure detection procedure2

Checking the TMDS status register (HDMI SW -> GUI)

Check item(3-13.1). Check the TMDS CLK detection status of the register.

Send the following command from Terminate.exe.

Send the command "i 00E2 0004 0001".

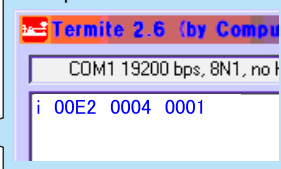
When the following value is returned, go to Yes.

"02"

When the following value is returned, go to No.

"other"

Example



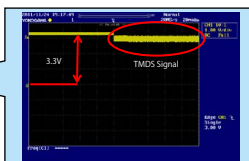
YES

GUI [IC811] is faulty.
Replace with a new device.

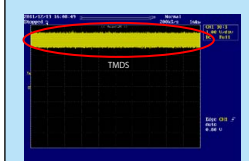
NO

Recheck from **check item (3.6)**.
If it does not work, replace the PCB.

Check item (3-13.2). Checking the TMDS input. :
Check the TMDS waveform at the following test point.
Is the waveform like the sample?



Example of waveform in check ①
Voltage scale : 1.0V/div
Time scale : 20ms/div



Example of waveform in check ②
Voltage scale : 1.0V/div
Time scale : 1s/div

YES

GUI [IC811] is faulty.
Replace with a new device.

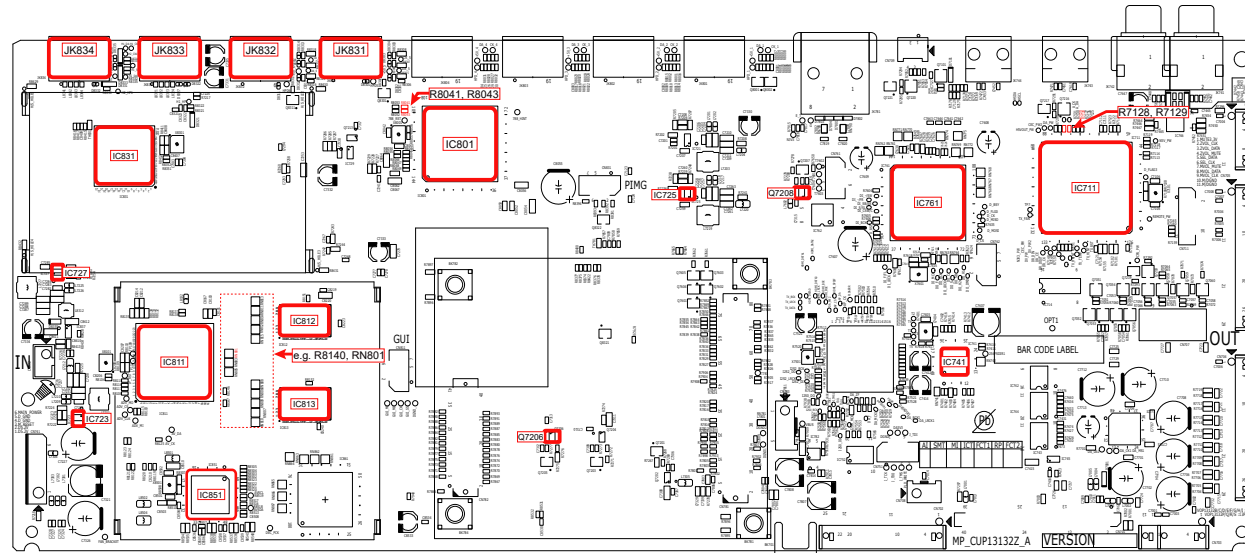
NO

HDMI SW [IC801] is faulty.
Replace with a new device.

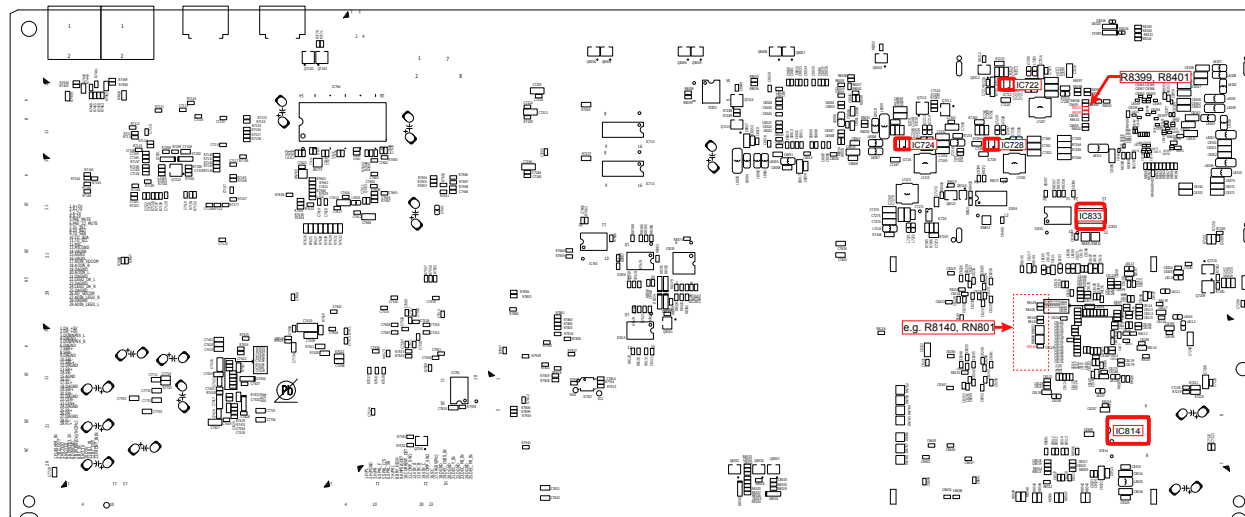
Recheck from **check item (3.6)**.
If it does not work, replace the PCB.

4. Device implementation location

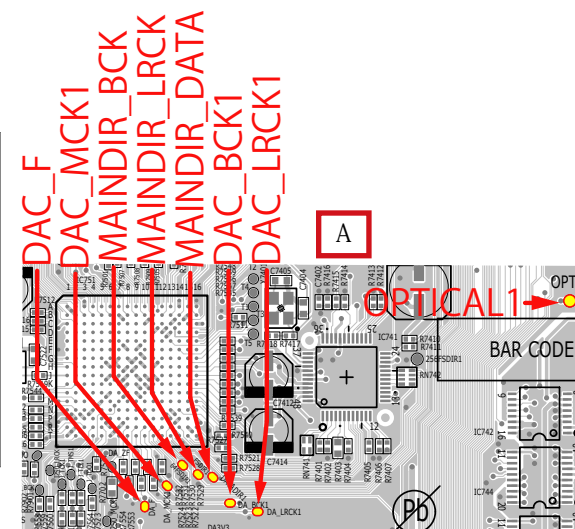
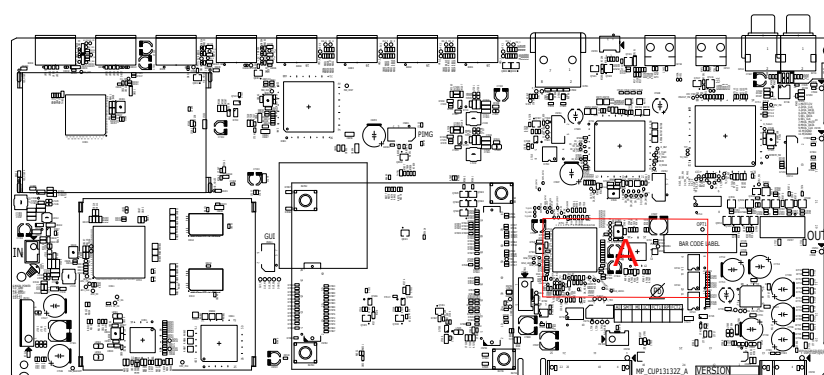
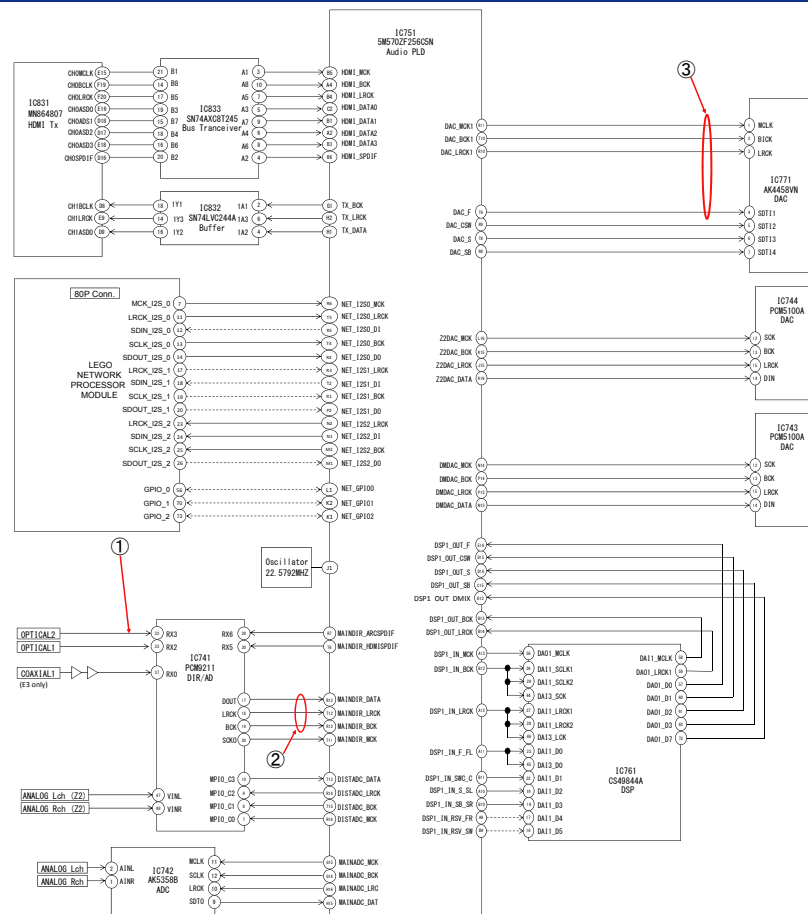
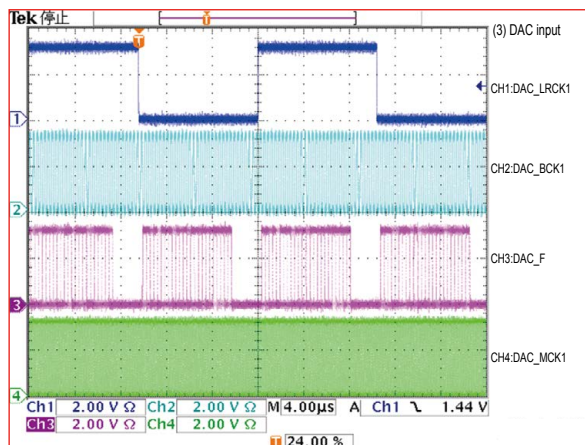
DIGITAL (A SIDE)



DIGITAL (B SIDE)



WAVE FORM



Updating

SPECIAL MODE

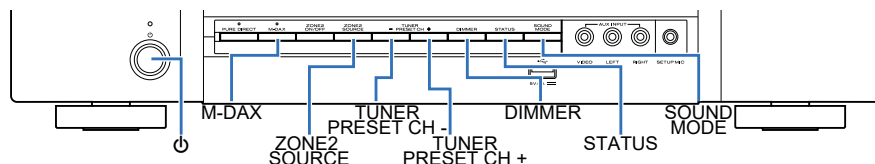
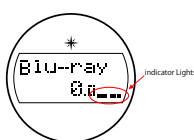
Special mode setting button

※ No. 1 - 4, 6 - 8 : While holding down buttons "A", "B" and "C" simultaneously, press the power button to turn on the power.

※ No. 5, 9, 10 : While the power is on, hold down buttons "A", "B", and "C" for at least 3 seconds .

No.	Mode	Button A	Button B	Button C	Descriptions
1	Version Display Mode (MCU / DSP Error Display)	DIMMER	STATUS	-	Displays the version of firmware such as the MCU or DSP. Errors that have occurred are displayed. (See 1. Version Display Mode)
2	PANEL / REMOTE LOCK Selection Mode	M-DAX	DIMMER	-	Activates the unit in PANEL/REMOTE LOCK selection mode to enable PANEL LOCK and Remote Lock On/Off to be set. (See 2. PANEL / REMOTE LOCK Selection Mode)
3	Selecting the Mode for Service-related	ZONE2 SOURCE	STATUS	-	A selection mode for entering service-related modes. Service-related modes : No. 3-1 - No. 3-5 (See 3-1. Selecting the Mode for Service-related)
3-1	Check the Video/Audio path Mode	↑	↑	-	This is a special mode for service confirmation used during repair work to simplify the confirmation work for the Audio channel / video channel. (See Service Path Check Mode)
3-2	Protection history display mode	↑	↑	-	Displays the latest occurred protection history. (See 3-2. Protection History Display Mode)
3-3	232C Standby Clear Mode	↑	↑	-	Switches from 232C standby mode to normal standby mode. (See 3-3. 232C Standby Clear Mode)
3-4	Operation Info Mode	↑	↑	-	Displays the accumulated operating time of the unit, the number of times the power was switched on, and the number of occurrences of each protection. (See 3-4. Operation Info Mode)
3-5	TUNER STEP Mode (U and N model only)	↑	↑	-	Enables the FM/AM tuner reception frequency step to be changed. (See 3-5. TUNER STEP mode (U, N only))
4	Protection Pass Mode	DIMMER	STATUS	SOUND MODE	Enables the power to be turned on when protection detection is disabled. (See 4. Protection Pass Mode)
5	Network Initialization Mode	TUNER PRESET CH -	DIMMER	-	Network module backup data is initialized. (See 5. Network Initialization Mode)
6	User Initialization Mode	M-DAX	ZONE2 SOURCE	-	Initialize the backup data for the MCU and network module. (Settings for the Installer Setup are not initialized.)
7	Factory Initialization Mode	TUNER PRESET CH -	TUNER PRESET CH +	-	Initialize the backup data only for MCU. (Settings for the Installer Setup are initialized) (Network function settings are not initialized.) (See POST-SERVICE PRECAUTIONS)
8	Clearing of Operation Info	TUNER PRESET CH +	DIMMER	-	Clear the accumulated operating time of the unit, the number of times the power was switched on, and the number of occurrences of each protection. (See 6. Clearing of Operation Info)
9	HDMI Diagnostics Mode	DIMMER	SOUND MODE	-	This mode is used to identify and solve the cause when there is a connectivity issue with this unit and an HDMI device. For details on the operating methods and diagnosis procedures, see the HDMI Diagnostics and Troubleshooting guide issued on SDI.
10	Log Capture feature	TUNER PRESET CH +	STATUS	-	Acquires the Network Module log. As the Network Module reboots, the log is deleted. Make sure to obtain the log before turning off the unit's power. (See 7. Log Capture feature)

NOTE : If the two indicator lights at the bottom right of the FLD display "0.0.0.0", this means that the unit has entered the special developer's mode. In this case, the RS-232C communication is not available. To release this special mode, press and hold the "DIMMER" and "STATUS" buttons for 3 seconds or more while the power is ON. The RS-232C communication is available when the two indicator lights at the bottom right of the FLD go out.



1. Version Display Mode

1.1. Actions

Version information is displayed when the device is started in this mode.

1.2. Starting up

While holding down buttons "DIMMER" and "STATUS" simultaneously, press the power button to turn on the power.

then press the "STATUS" button to display the information in section 1.3 on the display.

※ The version list is also displayed on GUI while the version is displayed on the display.

1.3. Display Order

Error information(See "1.4. Error display") → ① Model destination information, Serial Number

→ ② Firmware Package → ③ MCU, MCU 1st Boot Loader → ④ DSP → ⑤ Audio PLD

→ ⑥ Video PLD → ⑦ GUI SFLASH → ⑧ PIMG → ⑨ HEOS Version → ⑩ HEOS Build → ⑪ HEOS Module

→ ⑫ HEOS Configuration → ⑬ HEOS Locale → ⑭ Restore Version → ⑮ Ether Mac Address

→ ⑯ WiFi Mac Address → ⑰ BT Mac Address → ⑱ Audyssey App Interface Version

① Model destination information, Serial Number :

L1	000000 \
L2	SN% % % % *
L3	*****

0 : Model name (SR5015)

\ : Region (U, N, K, F)

% : SKU code

② Firmware Package :

L1	PACKAGE
L2	
L3	*****

③ MCU, MCU 1st Boot Loader :

L1	M *****
L2	*****
L3	BL-*. *

④ DSP ROM :

L1	DSP
L2	
L3	*. *. *

⑤ Audio, Video PLD :

L1	A. PLD
L2	
L3	*****

⑥ Video PLD :

L1	V. PLD
L2	
L3	*****

⑦ GUI SFLASH :

L1	GUI
L2	00\$ \ *****
L3	

0 : Model code, \$: Brand code (De=1, Mz=2),

\ : Region code (U=1, N=2, K=5, F=4, ALL=0),

* : version

⑧ PIMG :

L1	PIMG
L2	*****
L3	

⑨ HEOS Version :

L1	HEOS Ver
L2	*. ***
L3	. ***

⑩ HEOS Build :

L1	Build
L2	
L3	*****

⑪ HEOS Module :

L1	Module
L2	
L3	***

⑫ HEOS Configuration :

L1	Config
L2	
L3	Product

⑬ HEOS Locale :

L1	Locale
L2	
L3	*****

⑭ Restore Version:

L1	RSTR
L2	*****
L3	*****

⑮ Ether MAC Address :

L1	Ether-MAC
L2	*****
L3	-*****

⑯ Wi-Fi MAC Address :

L1	Wi-Fi MAC
L2	*****
L3	-*****

⑰ Bluetooth MAC Address :

L1	BT MAC
L2	*****
L3	-*****

⑱ Audyssey App Interface Ver :

L1	Audy IF
L2	
L3	*. *. *

1.4. Error display

See the table below for descriptions of the displayed errors and countermeasures for these.

If multiple errors occur, only one item is displayed.

The priority order is ②, ③, ④, ⑤, ⑥, ①.

Condition	States	Display	TROUBLE SHOOTING
① Firm Check Error	<p>The model name, brand name and region information written in the firmware are compared to the region settings in the PCB. This error is displayed if the information does not match.</p> <p>"▲" is not displayed if firmware information is correct.</p>	<div> <div>L1 FIRM</div> <div>L2 ERROR</div> <div>L3</div> </div> <div> <div>L1 Mi*****▲</div> <div>L2 *****</div> <div>L3 BL-***. **</div> </div> <div> <div>L1 A.PL D ▲</div> <div>L2</div> <div>L3 *****</div> </div> <div> <div>L1 GUI ▲</div> <div>L2</div> <div>L3 ***. **</div> </div> <div> <div>L1 DSP ▲</div> <div>L2 *****</div> <div>L3</div> </div> <div> <div>L1 U.PL D ▲</div> <div>L2</div> <div>L3 *****</div> </div> <div> <div>L1 PIMG ▲</div> <div>L2</div> <div>L3 ***. **</div> </div>	<p>•Check the resistor for setting the region[R7101, R7102, R7154, R7155, DIGITAL PCB].</p> <p>•Write the firmware for the correct region.</p> <p>PIMG Error indication</p> <p>•Check the circuits around the Logic[IC834] and SFROM[IC835]. If there appear to be no problems, [IC834] or [IC835] is faulty.</p>
② IP SCALER Error	<p>An error occurs in Loop back Test of the DDR memory which is performed during the initial setting of i/p Scaler(ADV8003).</p> <p>During the initial setting of i/p Scaler (ADV8003) , there is not the reply of the Loop back Test result of the DDR memory .</p>	<div> <div>L1 IP</div> <div>L2 SCALER</div> <div>L3 ERR 01</div> </div> <div> <div>L3 ERR 02</div> </div>	<p>•Check the circuits around the IP SCALER [IC811, DIGITAL PCB] and DDR2 [IC812/IC813].</p> <p>If there appear to be no problems, [IC811] or [IC812/IC813] is faulty.</p>
③ GUI Serial Flash Error	<p>If the MCU version is not supported by the GUI Serial Flash (ADV8003), "▼" is displayed as the first character of the GUI firmware version.</p> <p>If GUI Serial Flash is damaged, "▲" is displayed as the first character.</p>	<div> <div>L1 GUI VER.</div> <div>L2 ERROR</div> <div>L3</div> </div>	<p>•Check the firmware version.</p>
④ DIR Error	<p>This error is displayed if there is no response from the DIR.</p>	<div> <div>L1 DIR</div> <div>L2 ERROR</div> <div>L3 01</div> </div>	<p>•Check the DIR [IC741, DIGITAL PCB] and surrounding circuits.</p>

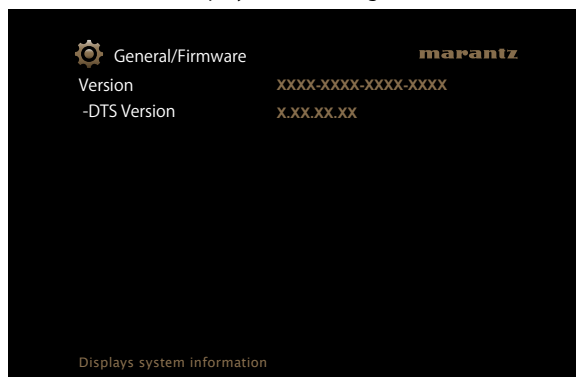
Condition	States	Display	TROUBLE SHOOTING
⑤ DSP Error	Boot error 1 (After reset the DSP, DSP_Flag0 port is " Low ")	<div>L1 DSP</div> <div>L2 ERROR</div> <div>L3 01</div>	•Check the DSP [IC761, DIGITAL PCB] and surrounding circuits.
	Boot Error 2 (After reset the DSP, MCU received state error command)	<div>L3 02</div>	
	Signal Detect Error (No response after input set for 1sec)	<div>L3 03</div>	
	Mode Change Error (No response after mode change for 1sec)	<div>L3 04</div>	
	Invalid situation (Detecting invalid situation with autodetect)	<div>L3 05</div>	
	Busy Error (" Busy " port remains " Low " for 1sec)	<div>L3 06</div>	
	Output Fs Error (Fs status between MCU output and actual DSP is different)	<div>L3 07</div>	
	Input Fs Error (Fs status between AutoDetect Msg and ACCN Msg is different)	<div>L3 08</div>	
	SPI communication error	<div>L3 09</div>	
⑥ BACKUP Error	Error occurred in BACKUP. it is an error of the check sum.	<div>L1 BACKUP</div> <div>L2 ERROR</div> <div>L3 ***</div>	

1.5. Version Display in the Setup Menu

Follow the steps below to display the firmware information.

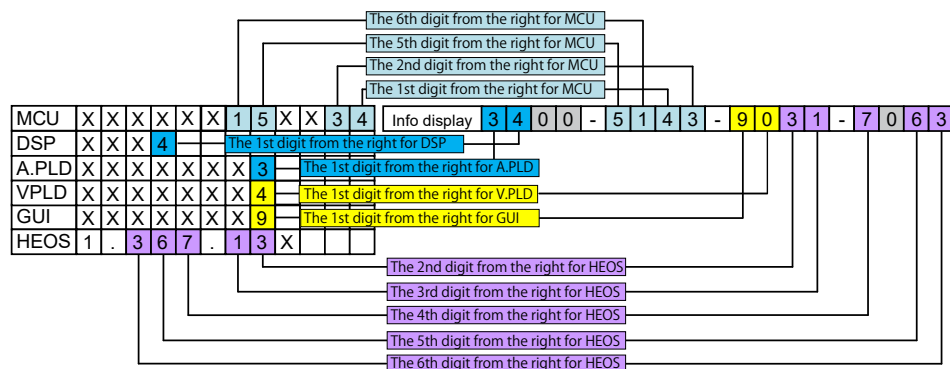
- (1) Press the "**SETUP**" button on the remote control.
- (2) Select "**General - Information - Firmware**".

The version information is displayed as a 16-digit number as shown in the screenshot below.



GUI Image

This 16-digit number comprises a part of the version number of each device and module. Numerics and version numbers correspond as shown below.



※ The firmware version numbers and this 16-digit version information are written in the Service Information.

※ Replace as follows for the 5th to 7th digits of HEOS version.

X.XXX.X → X.XXX.00X
 X.XXX.XX → X.XXX.0XX
 X.XXX.XXX → X.XXX.XXX

2. PANEL / REMOTE LOCK Selection Mode

2.1. Actions

Switch the PANEL LOCK and REMOTE LOCK modes between on and off.

- PANEL LOCK Mode (with Volume)
Disables reception from all keys and encoders on the front panel except the power button (including the volume).
- PANEL LOCK Mode (without Volume)
Disables reception from all keys and encoders on the front panel except the power button and volume encoder.
- PANEL LOCK mode is turned off

2.2. Starting up

While holding down buttons "M-DAX" and "DIMMER" simultaneously, press the power button to turn on the power.

Select the desired mode using the "TUNER PRESET CH +/-" button, then press the "STATUS" button to confirm.

2.3. Displaying and Selecting Each Mode

The information shown on the display switches each time the "TUNER PRESET CH +" button is pressed.

Press the "STATUS" button to set the currently displayed mode and restart the device.

The setting with "*" is selected for each mode.

①

L1	P/V LOCK
L2	*On
L3	

The buttons on the unit and the master volume knob does not function.

②

L1	FP LOCK
L2	On
L3	

The buttons on the unit does not function.

③

L1	FP LOCK
L2	*Off
L3	

The PANEL LOCK mode is turned off.

④

L1	RC LOCK
L2	On
L3	

The device cannot be operated by the remote control.

⑤

L1	RC LOCK
L2	*Off
L3	

The REMOTE LOCK mode is turned off.

3-1. Selecting the Mode for Service-related

3-1.1. Actions

Select diagnostic mode (service path check mode), protection history display mode, 232C standby clear mode, Operation Info mode or TUNER STEP mode.

3-1.2. Starting up

While holding down buttons "ZONE2 SOURCE" and "STATUS" simultaneously, press the power button to turn on the power.

Select the desired mode using the "TUNER PRESET CH +/-" button, then press the "STATUS" button to confirm.

3-1.3. Displaying and Selecting Each Mode

The information shown on the display switches each time the "TUNER PRESET CH +" button is pressed.

Press the "STATUS" button to set the currently displayed mode and restart the device.

①

L1	1SERVICE
L2	CHECK
L3	

Service Path Check Mode : See "DIAGNOSTIC MODE"

The Video and Audio paths can be checked.

This function is convenient for confirming problem paths in the product and checking the paths after repairing.



②

L1	2PROTECT
L2	
L3	

The protection history can be checked.



③

L1	3RS232C
L2	RESET
L3	

Switches from 232C standby mode to normal standby mode.



④

L1	4OP INFO
L2	
L3	

Operation Info for the unit can be checked.



⑤ U and N model only

L1	5TUNER
L2	FREQ
L3	

Enables the reception frequency STEP of the ANALOG TUNER to be changed.

3-1.4. Canceling the selected mode

Press the power button to turn off the power.

3-2. Protection History Display Mode

3-2.1. Actions

This mode enables the unit to record and display the event when the THERMAL, ASO or DC protection is activated.

If protections have been activated multiple times, the latest protection operation is recorded.

3-2.2. Starting up

While holding down buttons "**ZONE2 SOURCE**" and "**STATUS**" simultaneously, press the power button to turn on the power.

Select the "**2PROTECT**" using the "**TUNER PRESET CH +/-**" button, then press the "**STATUS**" button then to confirm.

3-2.3. Protection information and displays

- Press the "**STATUS**" button in Protection History Display Mode.
- The protection history can be checked.

(1) If no protections has occurred.

L1	PROTECT
L2	HISTORY
L3	: NO

(2) ASO (if the last protection is ASO)

L3	: ASO
----	-------

Cause A short circuit occurred between the speaker terminals, or speakers with an impedance outside the rating were connected.

Note : Short circuits in speaker terminals or speakers can be identified.

If the power is turned on in the abnormal state, protection is activated after around 6 seconds and the power is turned off.

(3) DC (if the last protection is DC)

L3	: DC
----	------

Cause : DC output of the power amplifier is abnormal.

If the power is turned on in the abnormal state, protection is activated after around 6 seconds and the power is turned off.

(4) THERMAL (if the last protection is THERMAL(A) or THERMAL(B) or THERMAL(H))

L3	: TR A
----	--------

L3	: TR B
----	--------

L3	: THM H
----	---------

Cause : Abnormal heat sink temperature.

If the power is turned on in the abnormal state, protection is activated after around 6 seconds and the power is turned off.

(5) Case of CURRENT (when the last protection incident is CURRENT protection)

L3	: CURRENT
----	-----------

Cause : An over current flowed in power amp.

If the power is turned on in the abnormal state, protection is activated after around 90 seconds and the power is turned off.

Caution : These protections may also be activated due to other factors such as disconnection of connectors or operations around the MCU.

After viewing the above protection history, press the "**STATUS**" button to return to the normal display.

3-2.4. Clearing the Protection History

There are two ways to clear the protection history.

- (1) Activate Protection History Display Mode. Press the **"STATUS"** button to display the protection history.

L1	PROTECT
L2	HISTORY
L3	=DC

Press and hold the **"DIMMER"** button for 3 seconds.



L3	CLEAR
----	-------

The above is displayed and protection history is cleared.



L3	=NO
----	-----

- (2) Initialize this unit. (See ["POST-SERVICE PRECAUTIONS"](#))

※ Use the method in **3-2.4. (1)** if you do not want to erase your settings from this unit.

Warning Displays by POWER LED

If the power is turned Off while a protection is being detected, the POWER LED flashes in red to warn you depending on the protection status as follows.

- (1) ASO/DC protection: Flashes at 0.5-second intervals (0.25 seconds lit, 0.25 seconds unlit)
- (2) THERMAL (A/B/H) protection: Flashes at 2-second intervals (1 seconds lit, 1 seconds unlit)
- (3) CURRENT protection: Flashes at 4-second intervals (2 seconds lit, 2 seconds unlit)

3-3. 232C Standby Clear Mode

3-3.1. Actions

Switches from 232C standby mode to normal standby mode.

3-3.2. Starting up

While holding down buttons **"ZONE2 SOURCE"** and **"STATUS"** simultaneously, press the power button to turn on the power.

Select the **"3RS232C RESET"** using the **"TUNER PRESET CH +/-"** button, then press the **"STATUS"** button then to confirm.

L1	3RS232C
L2	RESET
L3	

3-4. Operation Info Mode

3-4.1. Actions

This mode enables the unit to display the accumulated operating time, power On count and each protection count.

3-4.2. Starting up

While holding down buttons "ZONE2 SOURCE" and "STATUS" simultaneously, press the power button to turn on the power.

Select the "4OP INFO" using the "TUNER PRESET CH +/-" button, then press the "STATUS" button then to confirm.

3-4.3. Operations

Press the "STATUS" button after starting up this device in Operation Info mode. The following information is displayed in the following order.

(1) Accumulated operating time

L1	Operate
L2	Time:
L3	____H

↑ Time display
↓ "STATUS"

(2) Power On time

L1	Power On
L2	Time:
L3	____

↑ Time display
↓ "STATUS"

(3) DC / ASO Protection count

L1	Protect
L2	DC: ____
L3	ASO: ____

↓ "STATUS"

(4) Thermal Protection (A/B/H) count

L1	Protect
L2	TR A: ____
L3	TR B: ____
L2	TH H: ____

↓ "STATUS"

(5) Current Protection count

L1	Protect
L2	Current:
L3	____

↓ "STATUS"

(Returns to normal display)

3-5. TUNER STEP mode (U, N only)

3-5.1. Actions

This is a special mode that enables the reception frequency STEP of the ANALOG TUNER to be changed.

3-5.2. Starting up

While holding down buttons "**ZONE2 SOURCE**" and "**STATUS**" simultaneously, press the power button to turn on the power.

Select the "**5TUNER FREQ**" using the "**TUNER PRESET CH +/-**" button, then press the "**STATUS**" button then to confirm.

3-5.3. Displays

Start up this unit in TUNER STEP mode, select the desired option using the "**TUNER PRESET CH +/-**" button, then enter using the "**STATUS**" button.

The following information is displayed in the following order.

(1) AM9 kHz / FM50 kHz is selected

L1	TunerFRQ
L2	AM9/
L3	FM50

"TUNER PRESET CH +" ↑ ↓ "TUNER PRESET CH -"

(2) AM10 kHz / FM200 kHz is selected

L1	TunerFRQ
L2	AM10/
L3	FM200

↓ "STATUS"

(3) Press the power button to turn off the power.

(4) Press the power button to turn on the power.

4. Protection Pass Mode

4.1. Actions

- This mode allows the power to be turned on without activating protections.
- This mode functions in the same way as normal power-on, except that protections are not activated.
- When using the protection pass mode, do not connect speakers to the speaker terminals.

4.2. Operations

While holding down buttons "**DIMMER**", "**STATUS**" and "**SOUND MODE**" simultaneously, press the power button to turn on the power.

The device returns to the normal display message after the following is displayed.

L1	Protect
L2	Pass
L3	

This is displayed for 5 seconds before returning to the normal display.

5. Network Initialization Mode

5.1. Actions

The following items are initialized.

- (1) Network setup
- (2) Friendly Name
- (3) Auto Update setting
- (4) Allow Update setting
- (5) Time Zone setting
- (6) Queue list
- (7) Internet Radio recently played station
- (8) Smart Select playback station
- (9) AirPlay Password
- (10) Bluetooth Pairing History

5.2. Operations

When the power is on and the input source is HEOS Music, press and hold the "**TUNER PRESET CH -**" and "**DIMMER**" buttons for more than 3 seconds.

Initializing Display

L1	Network
L2	Reset...

Complete Display

L1	Complete
----	----------

This is displayed for 5 seconds before returning to the normal display.

6. Clearing of Operation Info

6.1. Actions

- Displays the accumulated operating time of the unit, the number of times the power was switched on, and the number of occurrences of each protection.

6.2. Operations

Remove all input/output terminals and the AC plug.

Connect the AC plug again and place the product in standby mode.

While holding down buttons "**TUNER PRESET CH +**" and "**DIMMER**" simultaneously, press the power button to turn on the power.

L1	PRODUCTP
L2	MODE

When "**PRODUCT MODE**" appears on the display, release the button and press the button "**power**" → "**ZONE2 ON/OFF**" to place the product in standby mode.

7. Log Capture feature

7.1. Actions

- Acquires the Network Module log.
- The log is deleted when the Network Module is deleted.
If an error occurs, it is acquired without turning off the power of this unit.
- The log can be copied to a writable USB flash drive.
It can also be sent to a server if this unit is connected to the Internet.
- The log is stored in the root folder of the USB flash drive with the name "**logs-<friendlyname>-<number>.tar.gz**".
<friendlyname> indicates the friendly name and <number> indicates the sequence number.
Previous logs on the USB flash drive are not overwritten. The log is encrypted.

7.2. Starting up

While the power is on, hold down buttons "**TUNER PRESET CH +**" and "**STATUS**" for at least 3 seconds.

7.2.1. If the USB flash drive is connected after starting the unit

- The log is written to the USB flash drive and "**Storing Logs...**" is displayed.

The log is also sent to the server.

L1	Storing
L2	Logs...

- When a log package is saved to a USB flash drive, "**USB SUCCESS**" appears in the display for 5 seconds, regardless of whether the upload to the server was successful.

L1	USB
L2	SUCCESS

- When saving of the log package fails, "**USB FAILED**" appears in the display for 5 seconds, regardless of whether the upload to the server was successful.

L1	USB
L2	FAILED

7.2.2. When the USB flash drive is not connected after startup, and this unit is connected to the Internet.

- The log is sent to the server and the display shows "**Storing Logs...**" for 5 seconds.

L1	Storing
L2	Logs...

- When the log package is uploaded, the ticket numbers "**No:XXXXX**" and "**Push ENTER**" are displayed until RC or the "**Enter**" or "**Back**" button of this machine is pressed.

L1	No:xxxxxx
L2	PushENTER

- If the log package upload fails, "**FAILED**" is displayed for 5 seconds.

L1	FAILED
L2	

8. Protection popups

1. Overview

When the power is turned on after protection is activated, a popup will prompt you to check the connection of the speaker cables and the ventilation around the unit before taking this product to one of our service centers.

Protection popups appear when ASO or thermal protection is activated.

2. Actions

- (1) When the user turns on the power after it is turned off by ASO or thermal protection, a popup corresponding to the protection that was activated is displayed.

ASO Protection

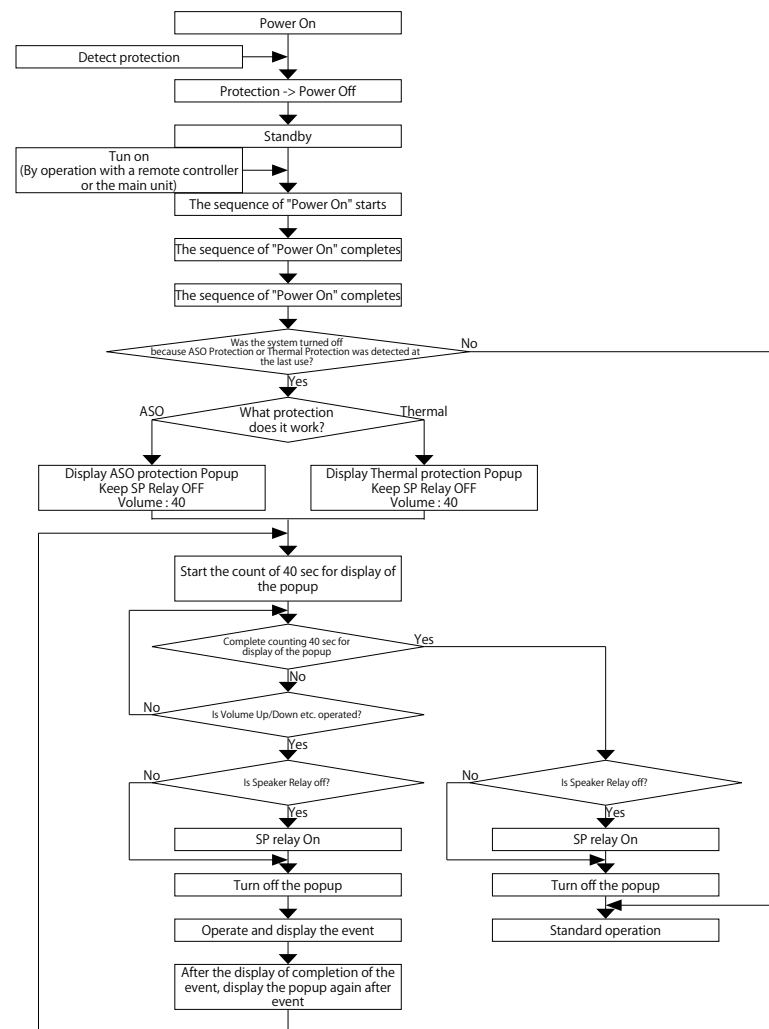


Thermal Protection



- Speaker Relay is turned off and the volume of the main zone is set to 40 while the popup is displayed to prevent protection from being activated again.
 - The same message also scrolls through the display while the popup is displayed.
 - If an abnormality occurs again while the popup is displayed, the power will turn off as it usually does in the case of abnormalities.
- (2) To clear the popup, press the ENTER button to select OK. Otherwise, the popup disappears 40 seconds after being displayed. Speaker Relay turns on and normal operation resumes when the popup disappears.
- Protection popups are only displayed once, when the power is turned on after protection is activated.
- If you need to confirm the type of protection that was activated (ASO or thermal) later, use the protection history display mode.

Below is a basic flowchart of how the protection popups operate.



Service Path Check Mode

1.1. Actions

This function is convenient for confirming problem paths in the product and checking the paths after repairing.
The video system and audio system operation paths can be checked.
The backup data is not rewritten.

1.2. Starting up

While holding down buttons "ZONE2 SOURCE" and "STATUS" simultaneously, press the power button to turn on the power.
Select the "1. SERVICE CHECK" using the "TUNER PRESET CH +/-" button, then press the "STATUS" button then to confirm.
The "----" segment in L3 is lit in this mode.

L1	※※※※※※※※
L2	※※※※※
L3	----※※※※※

1.3. Canceling diagnostic mode

Press the power button to turn off the power.

1.4. Selecting items to check

Press the ① button to switch between video items and audio items.
Press the ② or ③ button to select the previous or next item.

Actions	The unit			Remote control unit		
	①	②	③	①	②	③
	Audio ⇄ Video	PREVIOUS	NEXT	Audio ⇄ Video	PREVIOUS	NEXT
Button	DIMMER	TUNER PRESET CH -	TUNER PRESET CH +	SLEEP	CURSOR ◀	CURSOR ▶

1.5. Audio system confirmation items

See the block diagram fig.AXXth.

Paths to be confirmed		Display	Settings	What to confirm
1	Analog	fig.A01 A01ANLG ※※※※※	Input Source : CBL/SAT Input Mode : Analog (fixed) Sound mode : DIRECT Amp assign : Surround Back MAIN ZONE : On ZONE2 : Off	• Analog input ⇒ Speaker output (Front L/R) • Analog input ⇒ Pre OUT output (Front L/R) (※ The input source can be switched to any source except CBL/SAT.)
2	DIGITAL (MAIN)	fig.A02a fig.A02b A2DIG. ※※※※※	Input Source : CBL/SAT Input Mode : DIGITAL (fixed) Sound mode : MULTI CH STEREO Amp assign : Surround Back Speaker Config ALL Speaker = Small/SW=Yes(2ch) MAIN ZONE : On ZONE2 : Off	• Digital input ⇒ Pre output (Front L/R, Center, Surround L/R, Surround Back L/R) • Digital input ⇒ Pre output (Front L/R, Center, Surround L/R, Surround Back L/R, Subwoofer) (※ The input source can be switched to any source except CBL/SAT.)
3	DIGITAL (ZONE2)	fig.A03a fig.A03b A03Z2DIG ※※※※※	Input Source : HEOS Music Input Mode : Auto Sound mode : STEREO ZONE2 Source : HEOS Music Amp assign : ZONE2 MAIN ZONE : On ZONE2 : On	• Digital(PCM) input ⇒ Speaker output (Surround Back (ZONE2) L/R) • Digital(PCM) input ⇒ Pre OUT output (ZONE2 L/R)

Paths to be confirmed			Display	Settings	What to confirm
4	HDMI	fig.A04a fig.A04b	A05HDMI ***_*	Input Source : CBL/SAT Input Mode : HDMI (fixed) Sound mode : STEREO Amp assign : Surround Back MAIN ZONE : On ZONE2 : Off	• HDMI input ⇒ Speaker output (Front L/R) (※ The input source can be switched to any source except CBL/SAT.)
5	Analog AD (MAIN ZONE)	fig.A05a fig.A05b	A06AD ***_*	Input Source : CBL/SAT Input Mode : Analog (fixed) Sound mode : MULTI CH STEREO Vol 60(-20dB) Amp assign : Surround Back Speaker Config ALL Speaker = Small/SW = Yes(2ch) MAIN ZONE : On ZONE2 : Off	• Analog input ⇒ Speaker output (Front L/R, Center, Surround L/R, Surround Back L/R) • Analog input ⇒ Pre OUT output SW(20Hz) (※ The input source can be switched to any source except CBL/SAT.) (※ Volume 60 is the value when Absolute settings are used. The value is -20 when Relative settings are used)
6	Analog Amp Assign (Amp Assign : ZONE2)	fig.A06	A07Z2ASS ***_*	Input Source : CBL/SAT Input Mode : Auto Sound mode : STEREO ZONE2 Source : Source Vol 60(-20dB) Amp assign : ZONE2 MAIN ZONE : On ZONE2 : On	• Analog input ⇒ Speaker output (Surround Back (ZONE2) L/R) • Analog input ⇒ Pre OUT output (ZONE2 L/R) (※ The input source can be switched to any source except CBL/SAT.) (※ Volume 60 is the value when Absolute settings are used. The value is -20 when Relative settings are used)
7	ZONE2 Downmix (Amp Assign : ZONE2)	fig.A07a fig.A07b	A22Z2-DM ***_*	Input Source : CBL/SAT Input Mode : Auto ZONE2 Source : Source ZONE2 Vol : 60 Amp Assign : ZONE2 MAIN ZONE : On ZONE2 : On	• Analog input ⇒ Speaker output (Surround Back (ZONE2) L/R) • Analog input ⇒ Pre OUT output (ZONE2 L/R) (Except S960) (※ The input source can be switched to any source except CBL/SAT.) (Leave the ZONE2 Source as Source.) (※ Volume 60 is the value when Absolute settings are used. The value is -20 when Relative settings are used)

1.6. Confirmation items for the video system

See the block diagram fig.VXXth.

Paths to be confirmed		Display	Settings	What to confirm
1	Analog Video pass	fig.V01 V01VIDEO ***. *	Input Source : CBL/SAT Video Mode : Bypass (IP Scaler : OFF), All sources MAIN ZONE : On ZONE2 : On	<ul style="list-style-type: none"> • CVBS input ⇒ CVBS output • Component input ⇒ Component output (※ The input source can be switched to any source except CBL/SAT.)
2	Video Convert (HDMI ⇒ HDMI)	fig.V02 V02CONV ***. *	Input Source : CBL/SAT Video Mode : Auto, All sources IP Scaler : On, All sources Resolution : "Auto", All sources MAIN ZONE : On ZONE2 : Off	<ul style="list-style-type: none"> • HDMI input (except 4K60p) ⇒ IP Scaler ⇒ HDMI output (except 4K60p) • HDMI input (4K60p) ⇒ HDMI output (4K60p) & Vol display • HEOS input ⇒ IP Scaler ⇒ HDMI output. (※ The input source can be switched to any source except CBL/SAT.)
3	HDMI pass (MAIN ZONE)	fig.V03 V03HDMI ***. *	Input Source : CBL/SAT Video Mode (IP Scaler) : Bypass MAIN ZONE : On ZONE2 : Off	<ul style="list-style-type: none"> • HDMI input (MAIN function) ⇒ HDMI output (MAIN) (※ The input source can be switched to any source except CBL/SAT.)
4	HDMI CEC (Control Monitor : HDMI Monitor1)	fig.V04 V04CEC ***. *	Input Source : CBL/SAT HDMI Control : On MAIN ZONE : On ZONE2 : Off	<ul style="list-style-type: none"> • When the power supply of a TV is put in the standby mode, make sure that the power supply of this unit is also put in the standby mode. (※ The input source can be switched to any source except CBL/SAT.) • The ARC path can also be checked (check this using the TV input source).
5	HDMI Audio (Audio : AVR)	fig.V05a fig.V05b V05H-AVR ***. *	Input Source : CBL/SAT HDMI Control : Off HDMI Audio : AVR (if checking the audio output from AVR)	<ul style="list-style-type: none"> • HDMI input (PCM, DolbyDigital, DTS) ⇒ Speaker output. • HDMI input(HD audio) ⇒ Speaker output. (※ The input source can be switched to any source except CBL/SAT.)
6	HDMI Audio (Audio : TV)	fig.V06 V06H-TV ***. *	HDMI Audio : TV (if checking the audio output from TV)	<ul style="list-style-type: none"> • HDMI input (PCM, DolbyDigital, DTS) ⇒ HDMI output (audio output from connected TV) (※ The input source can be switched to any source except CBL/SAT.)
7	GUI	fig.V07 V07MENU ***. *	Input Source : CBL/SAT Video Mode : Auto, All source IP Scaler : On, All source Resolution : "Auto", All source MAIN ZONE : On ZONE2 : Off	<ul style="list-style-type: none"> • GUI display ⇒ HDMI output. (※ The input source can be switched to any source except CBL/SAT.)

DIAGNOSTIC PATH DIAGRAM

fig.A01

SR5015 ANALOG AUDIO BLOCK

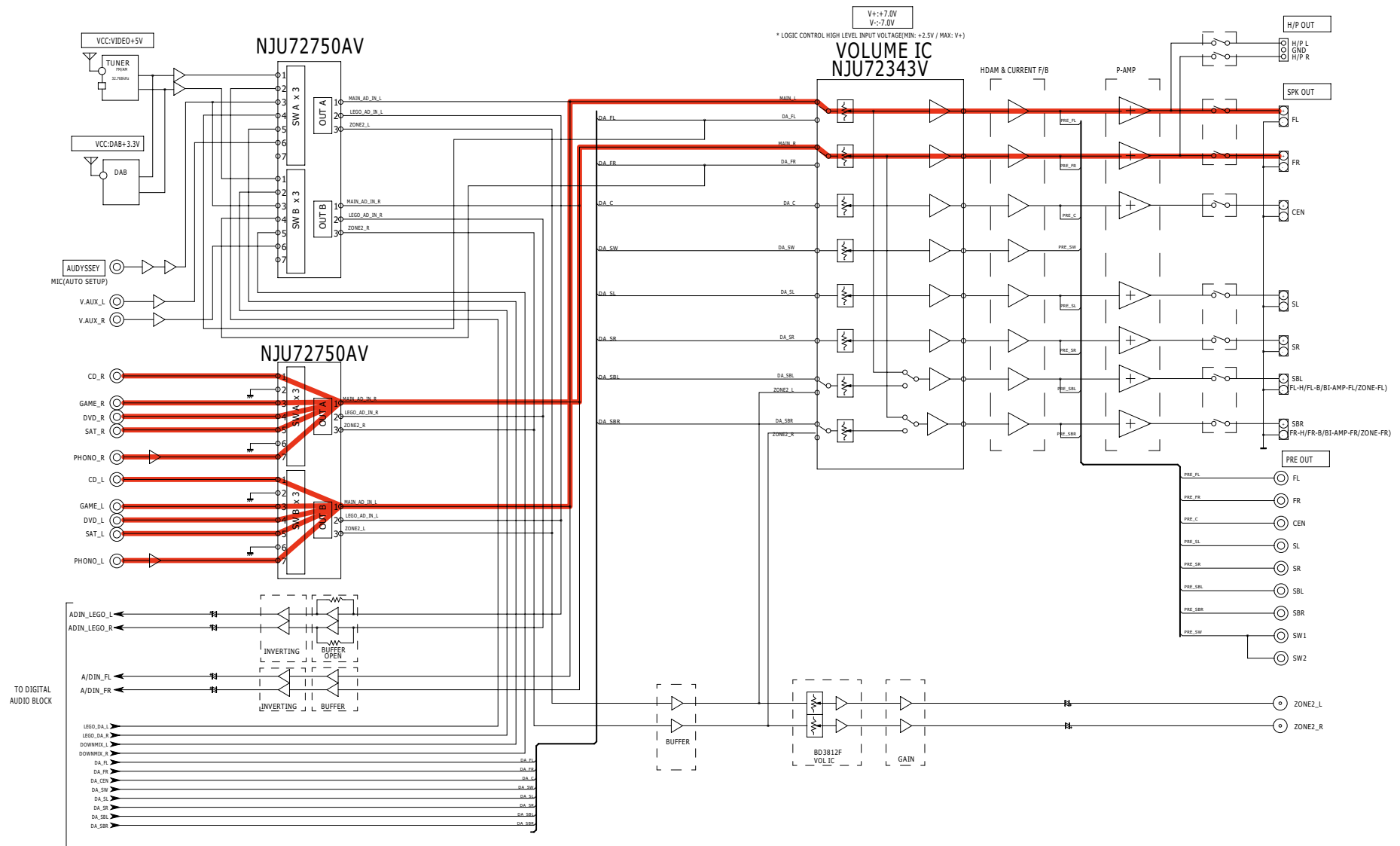


fig.A02a

SR5015 DIGITAL AUDIO BLOCK

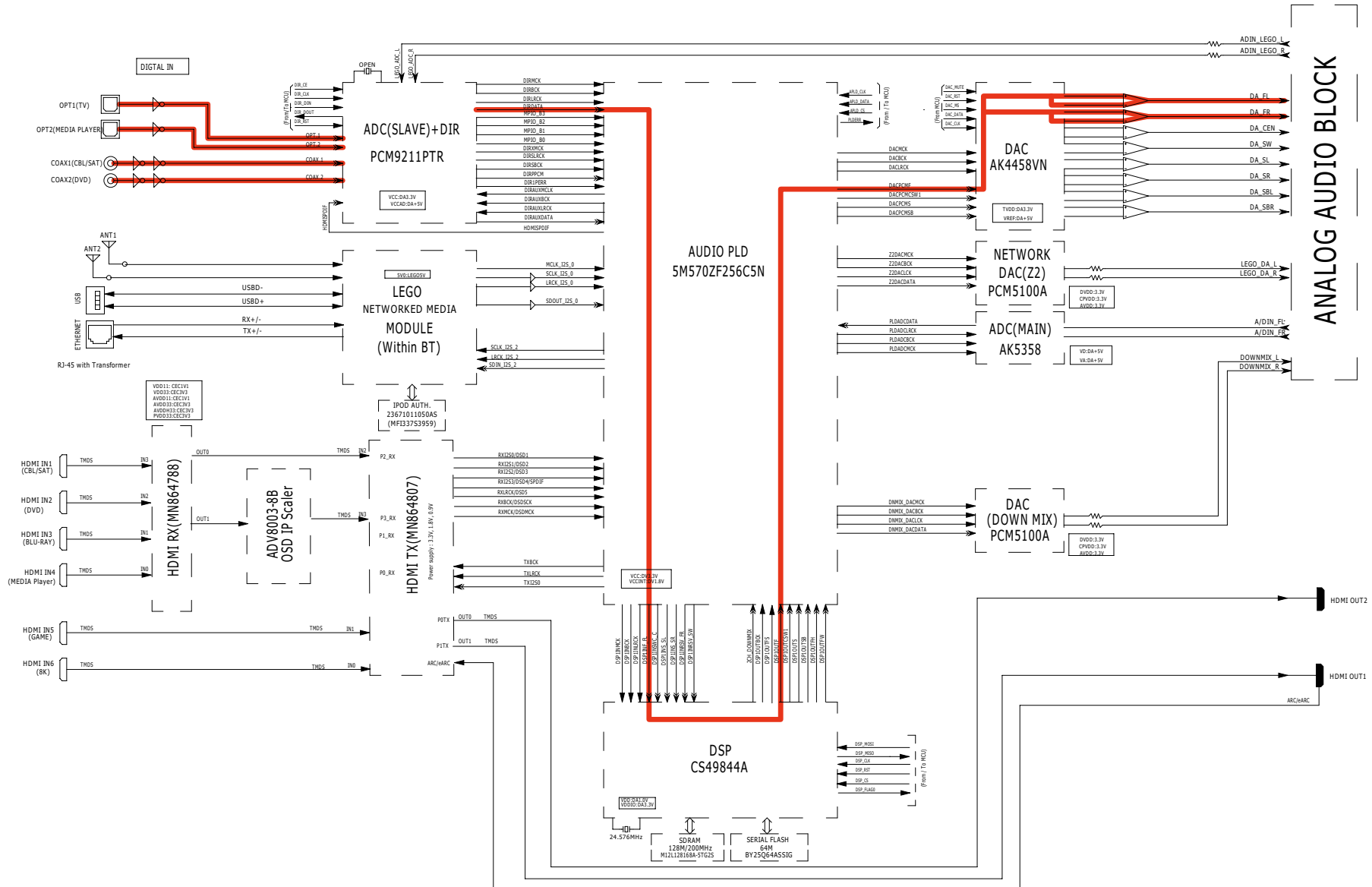


fig.A02b

SR5015 ANALOG AUDIO BLOCK

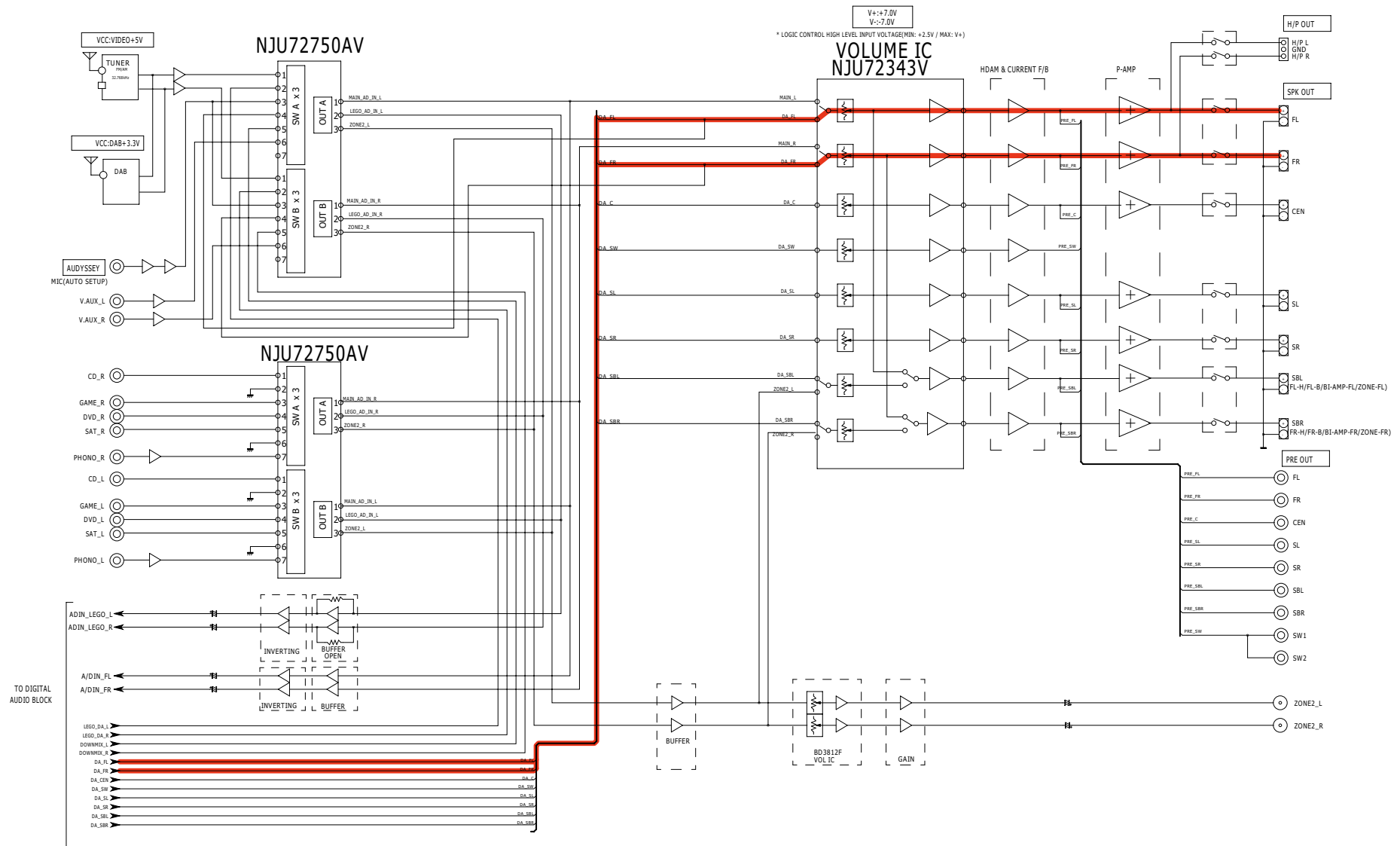


fig.A03a

SR5015 DIGITAL AUDIO BLOCK

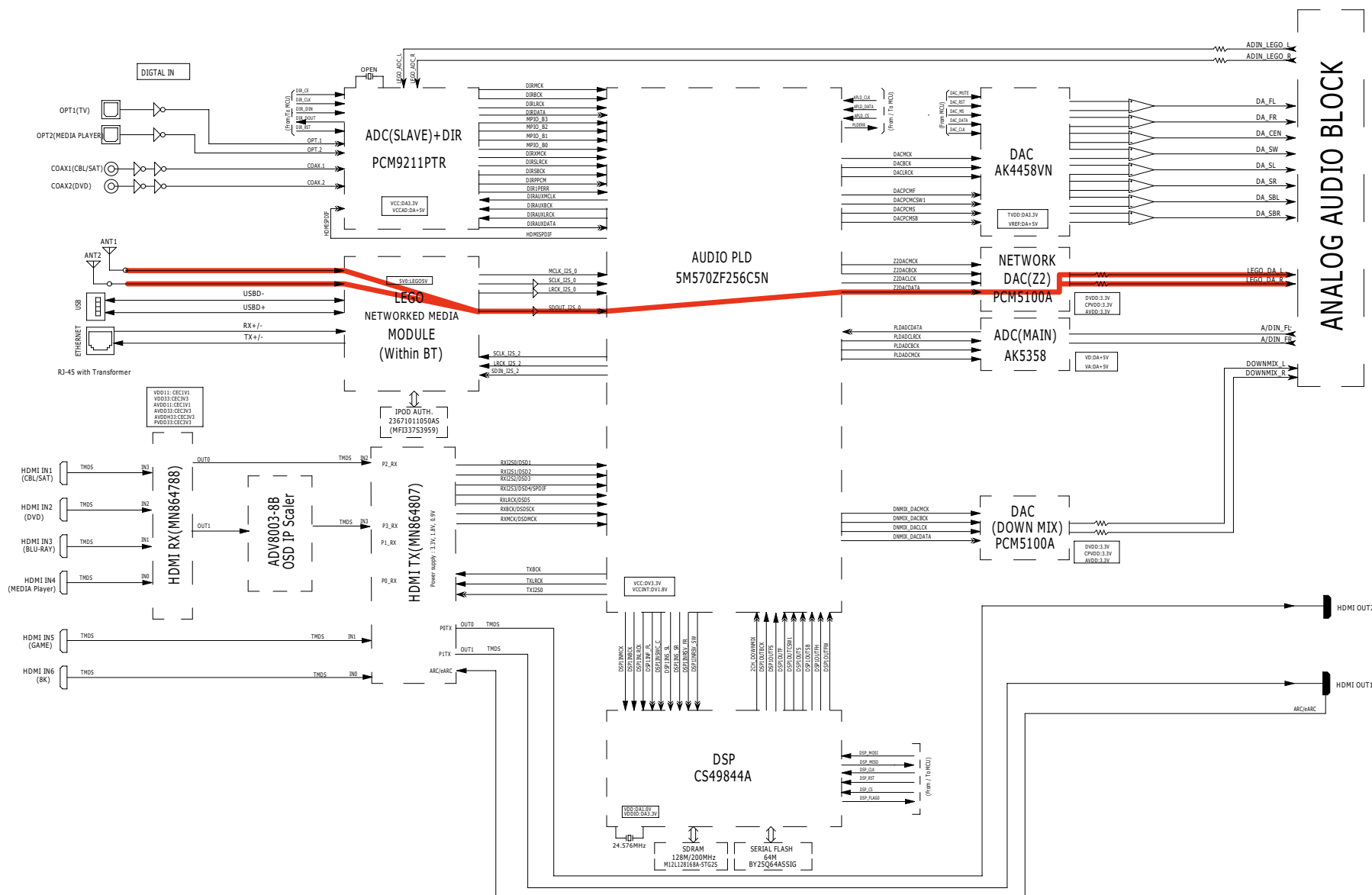


fig.A03b

SR5015 ANALOG AUDIO BLOCK

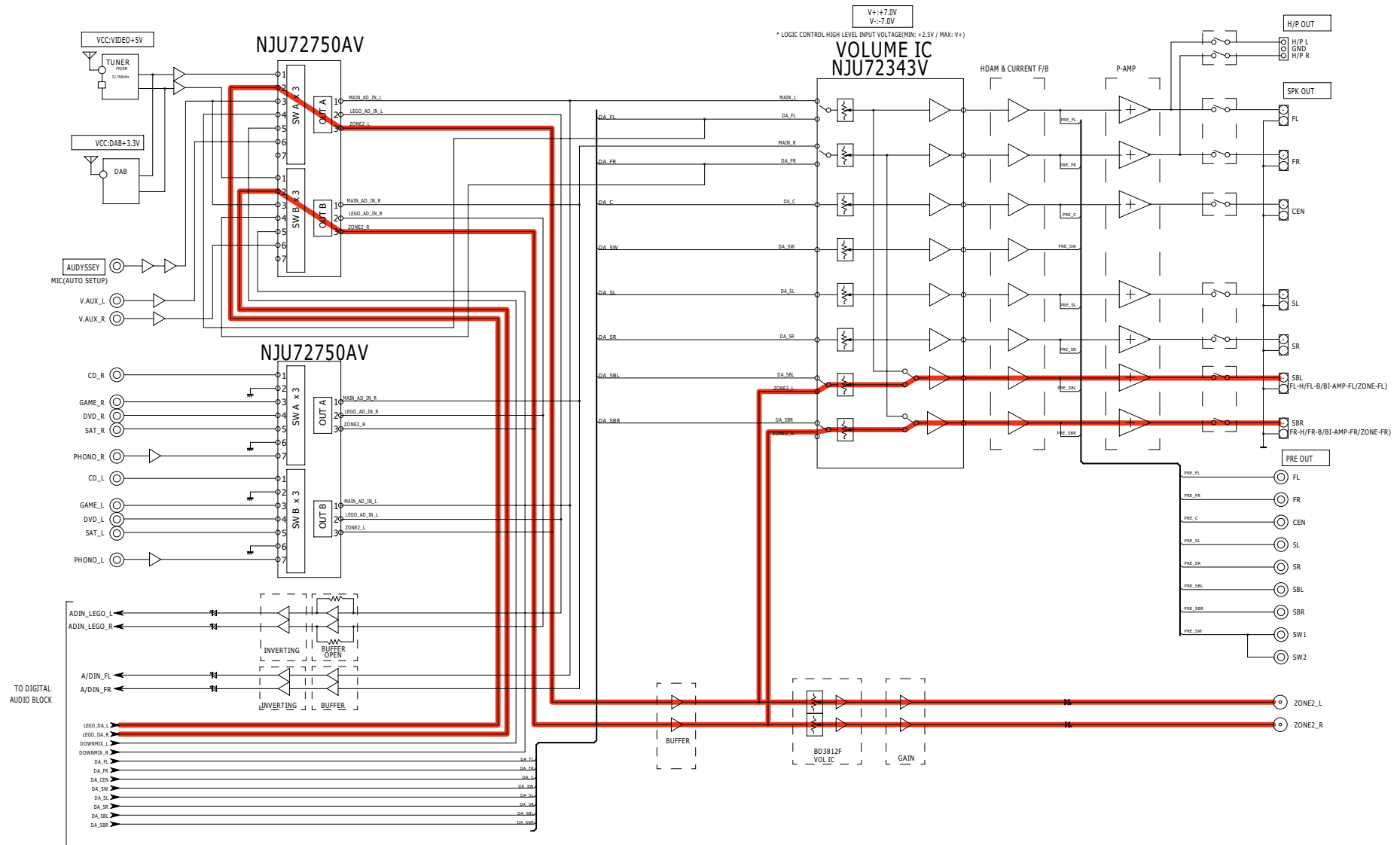


fig.A04a

SR5015 DIGITAL AUDIO BLOCK

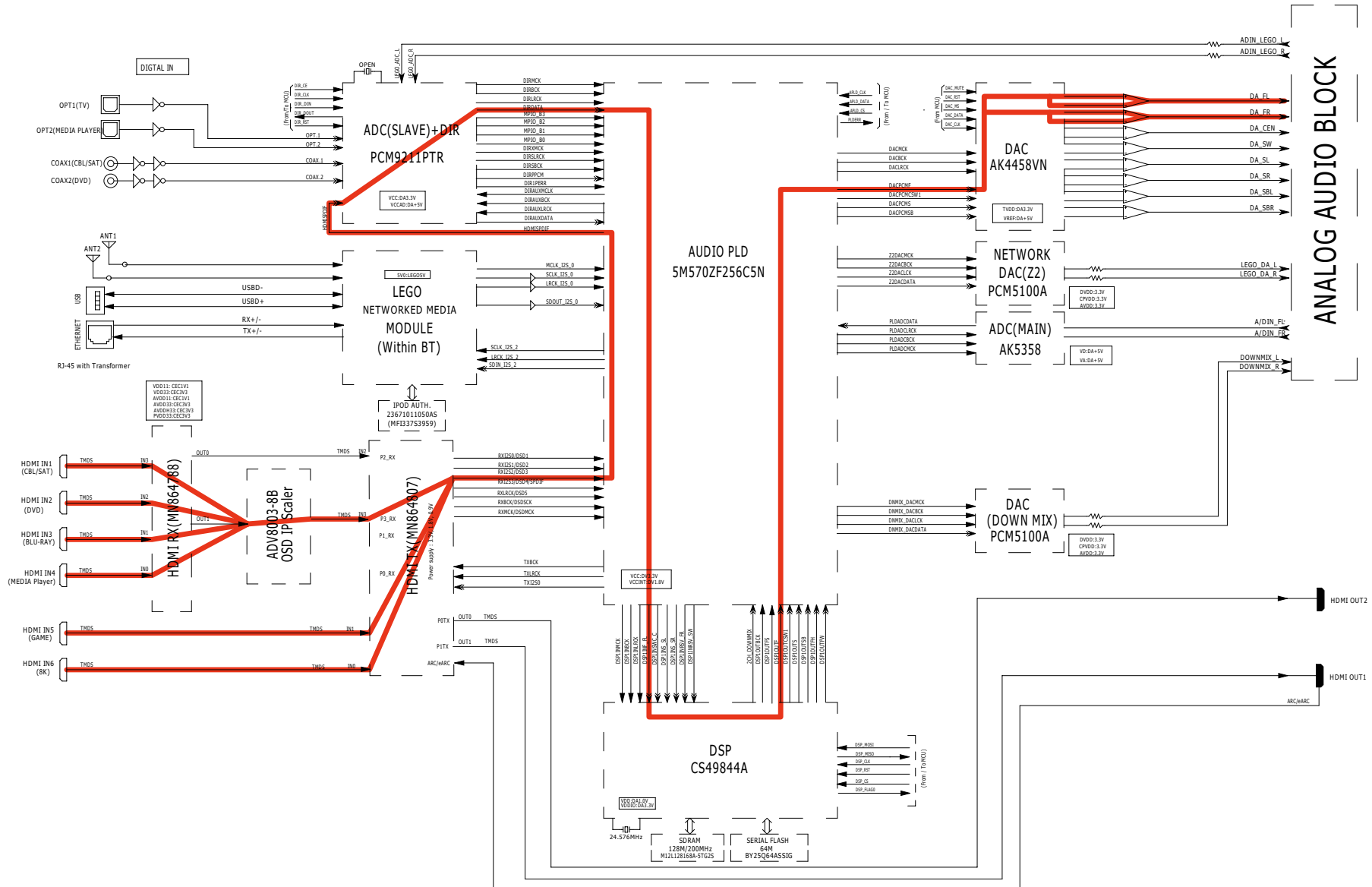


fig.A04b

SR5015 ANALOG AUDIO BLOCK

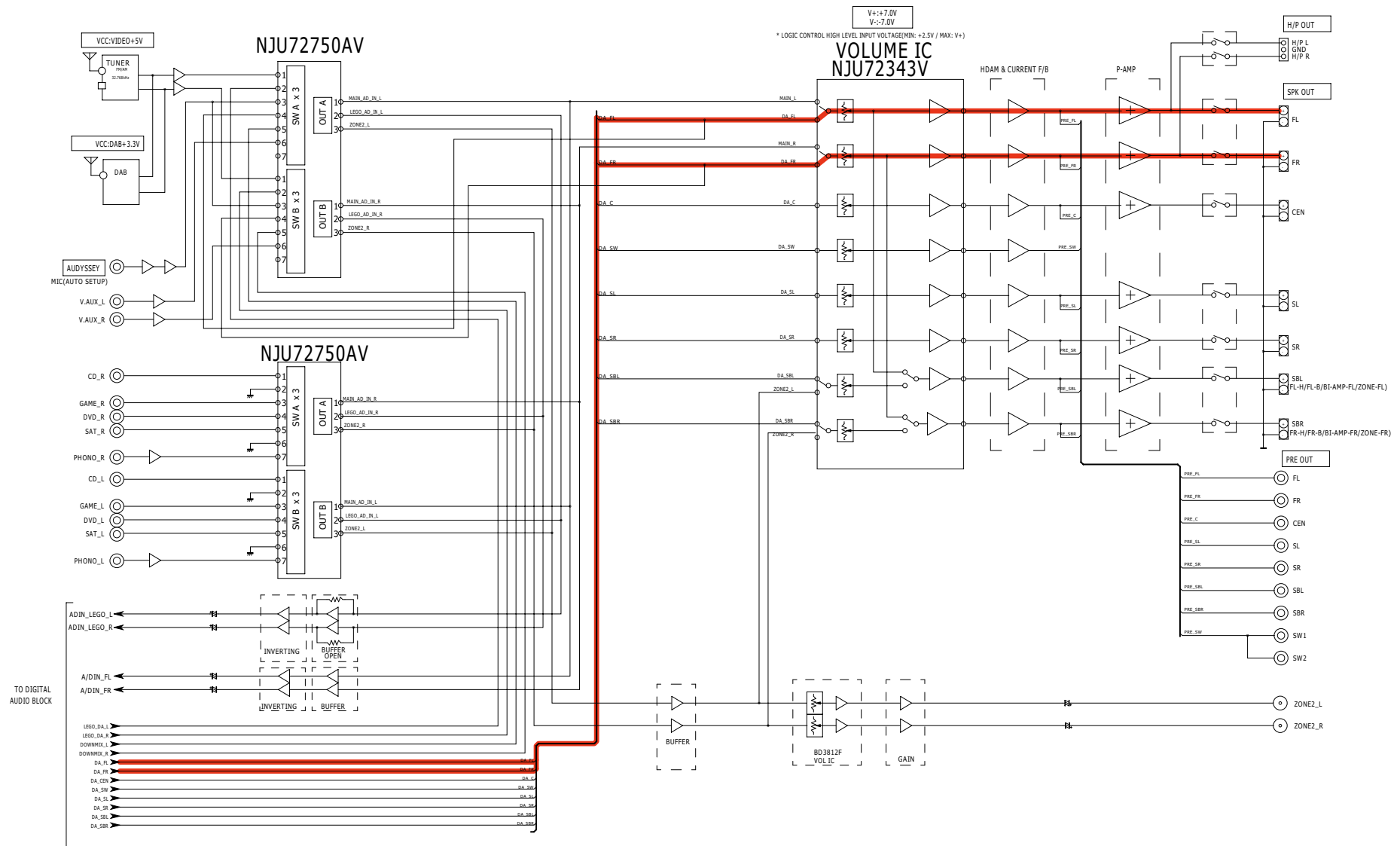


fig.A05b

SR5015 ANALOG AUDIO BLOCK

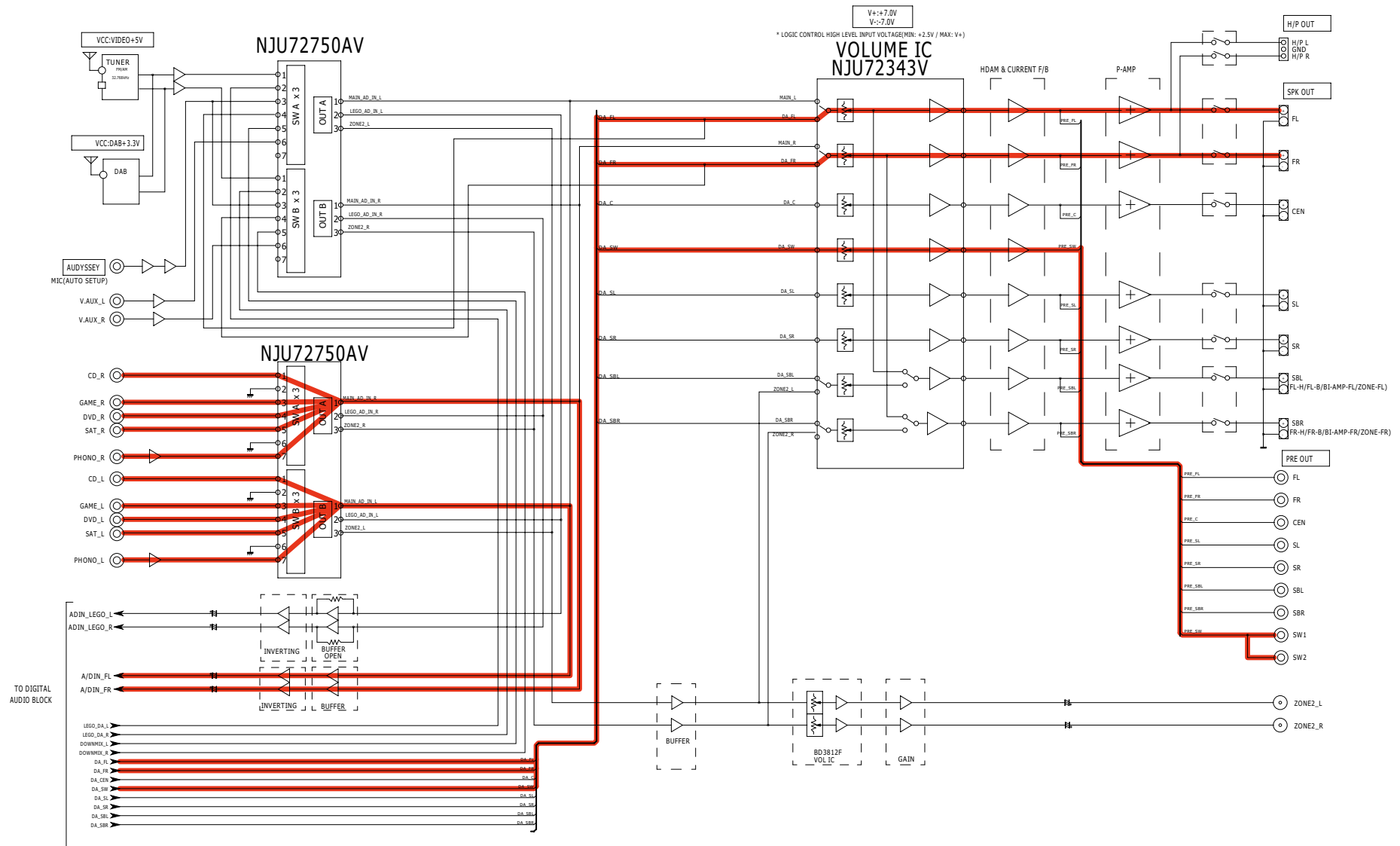


fig.A06

SR5015 ANALOG AUDIO BLOCK

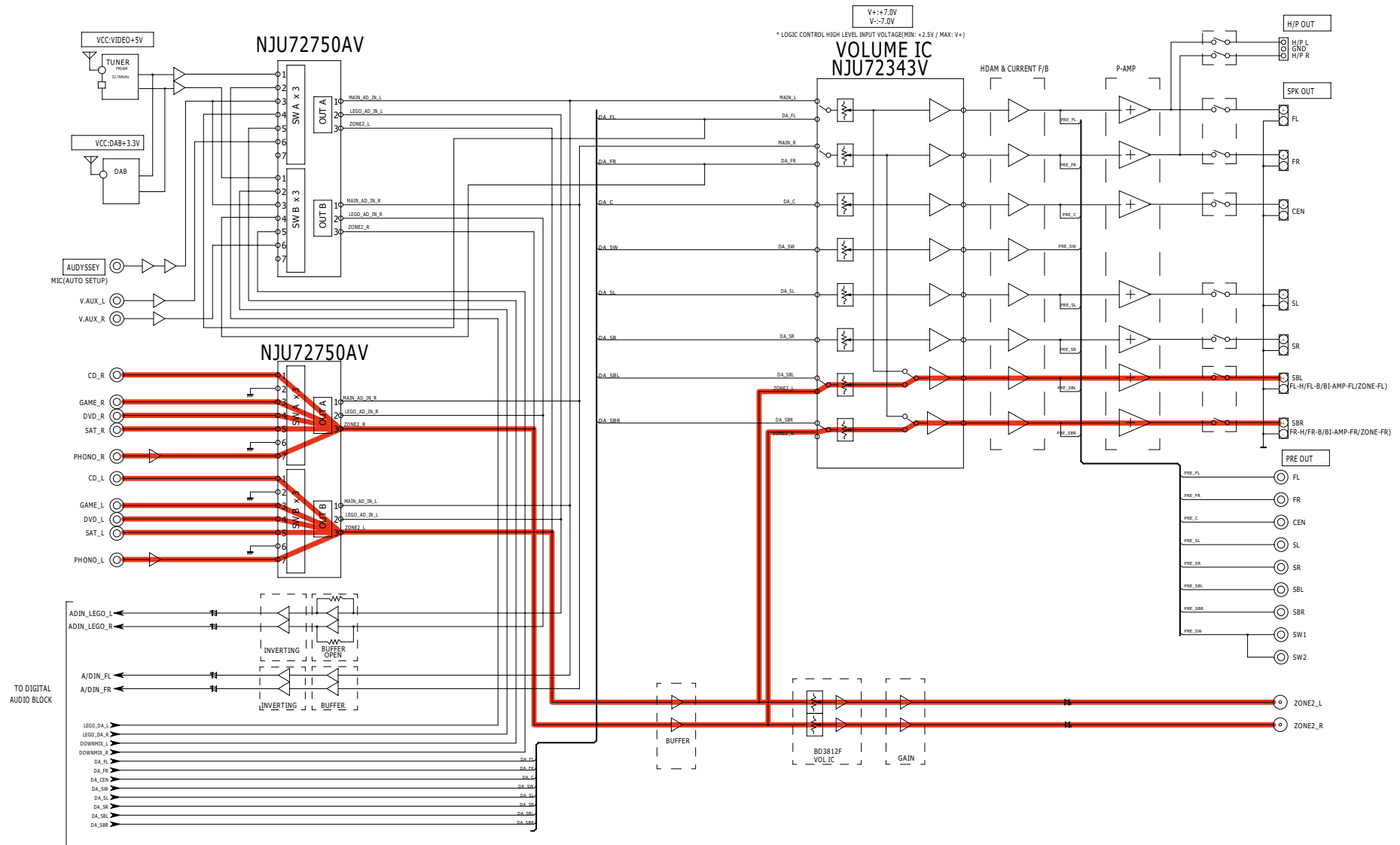
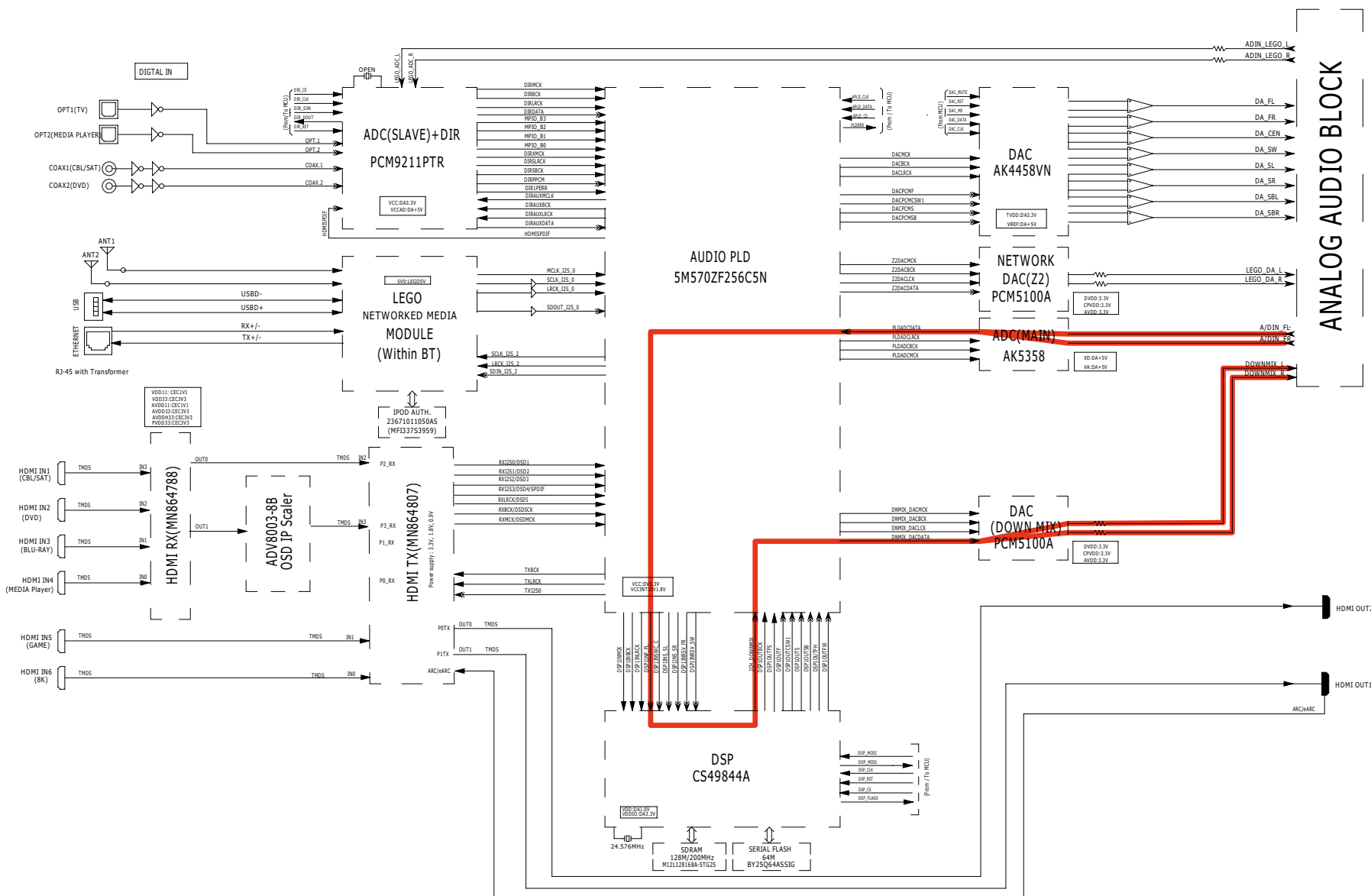


fig.A07a

SR5015 DIGITAL AUDIO BLOCK



SR5015 ANALOG AUDIO BLOCK

fig.V01

SR5015 VIDEO BLOCK

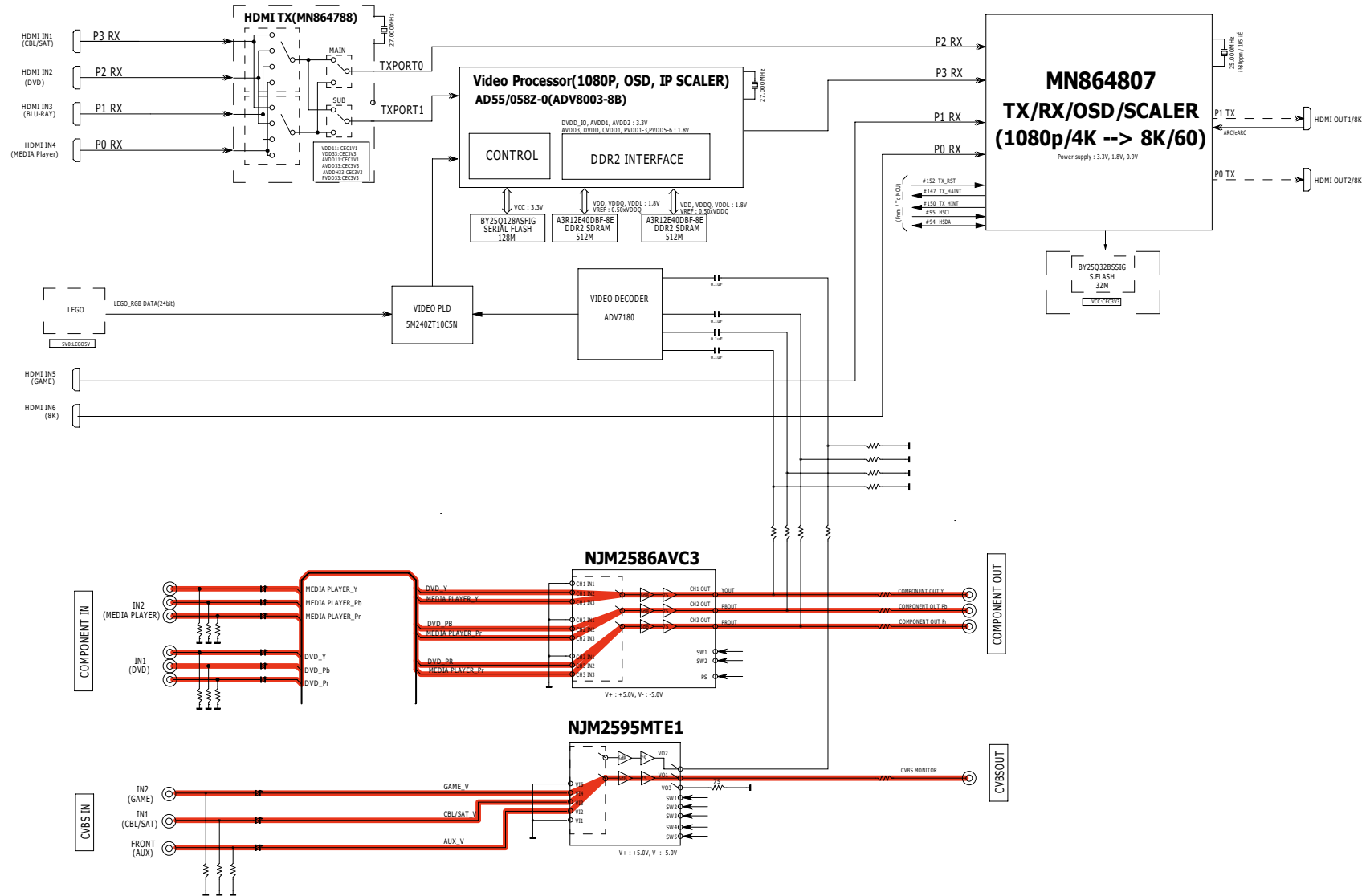


fig.V02

SR5015 VIDEO BLOCK

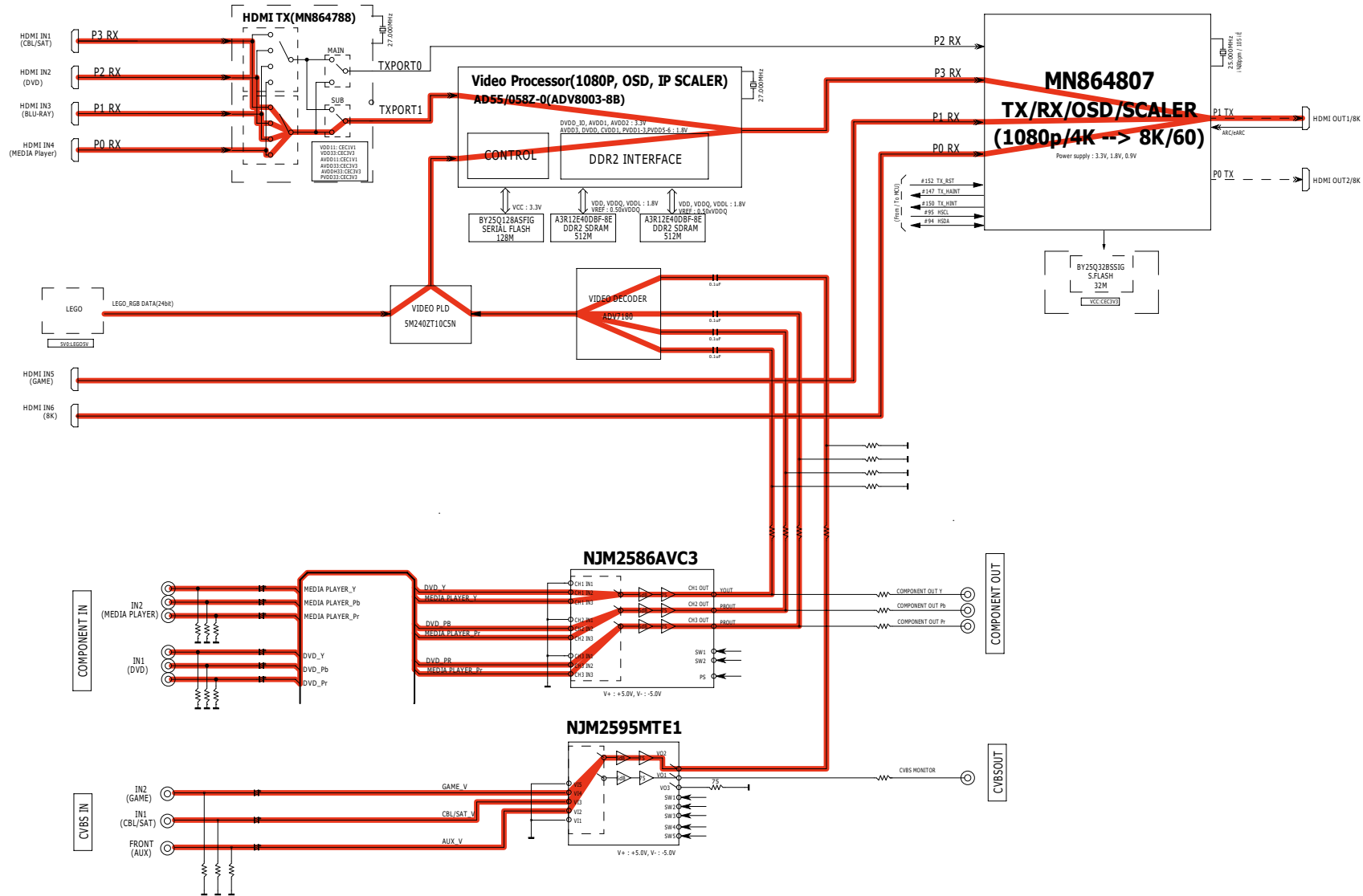


fig.V04

SR5015 VIDEO BLOCK

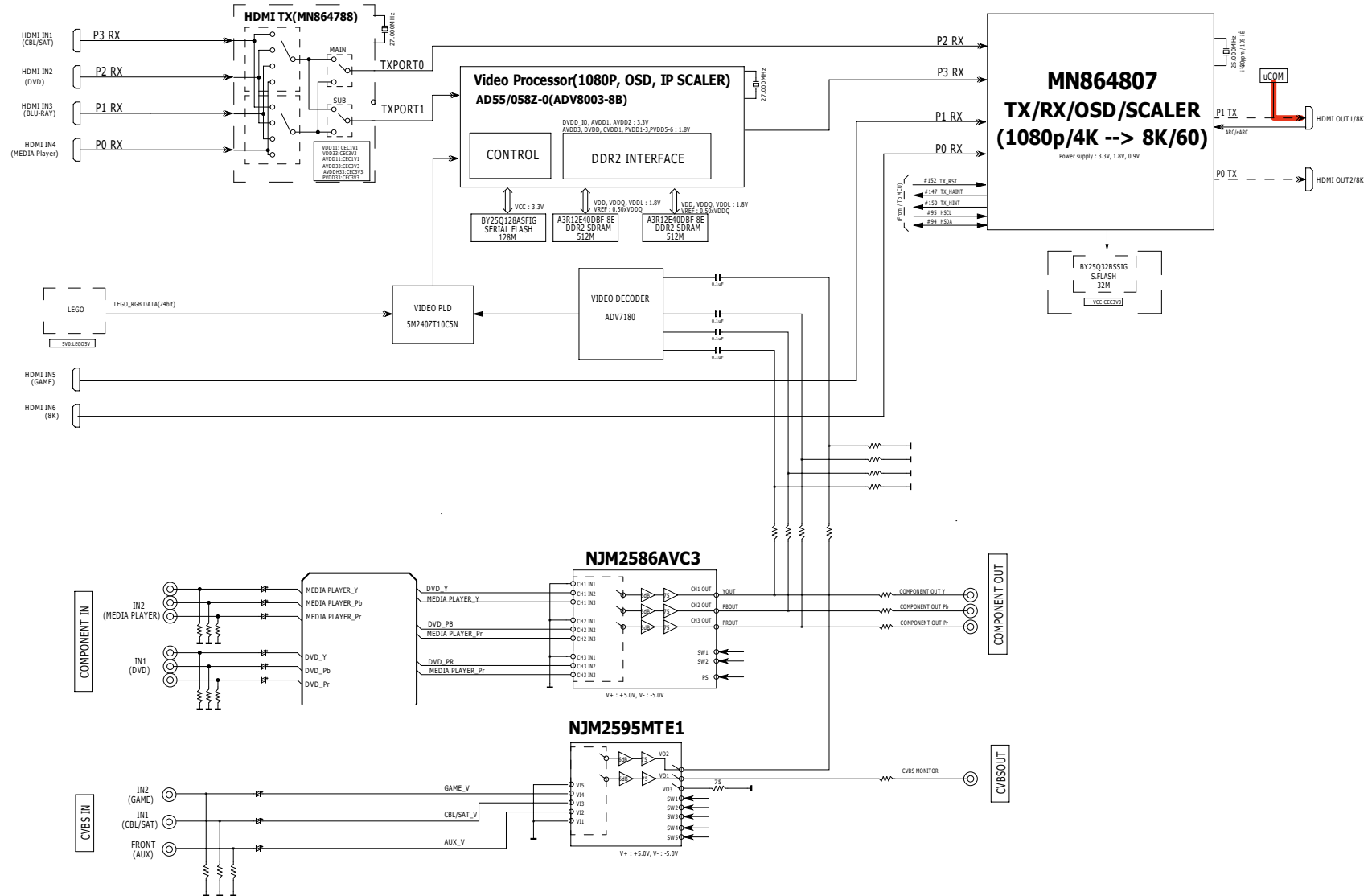


fig.V05a

SR5015 DIGITAL AUDIO BLOCK

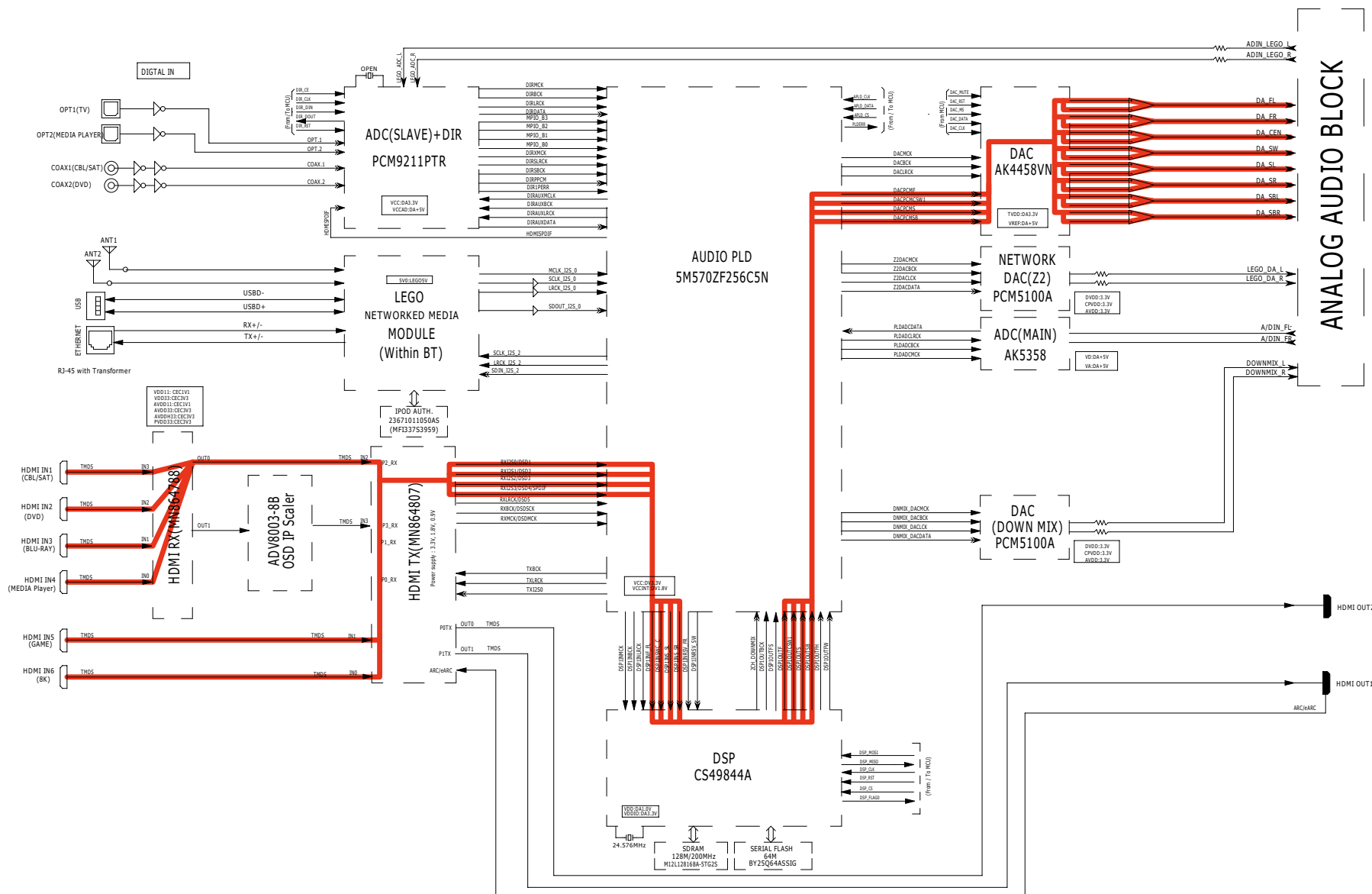


fig.V05b

SR5015 ANALOG AUDIO BLOCK

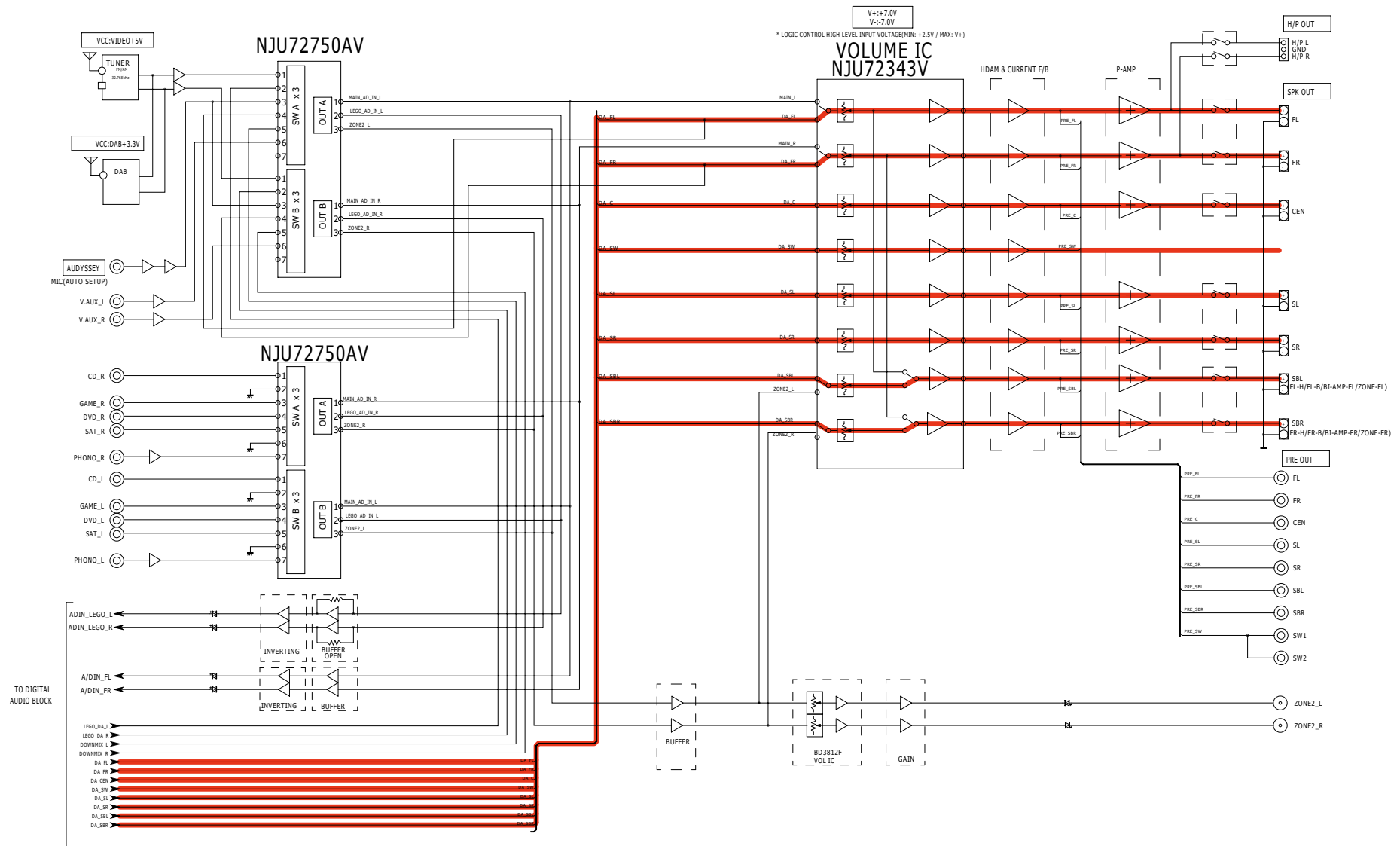


fig.V06

SR5015 DIGITAL AUDIO BLOCK

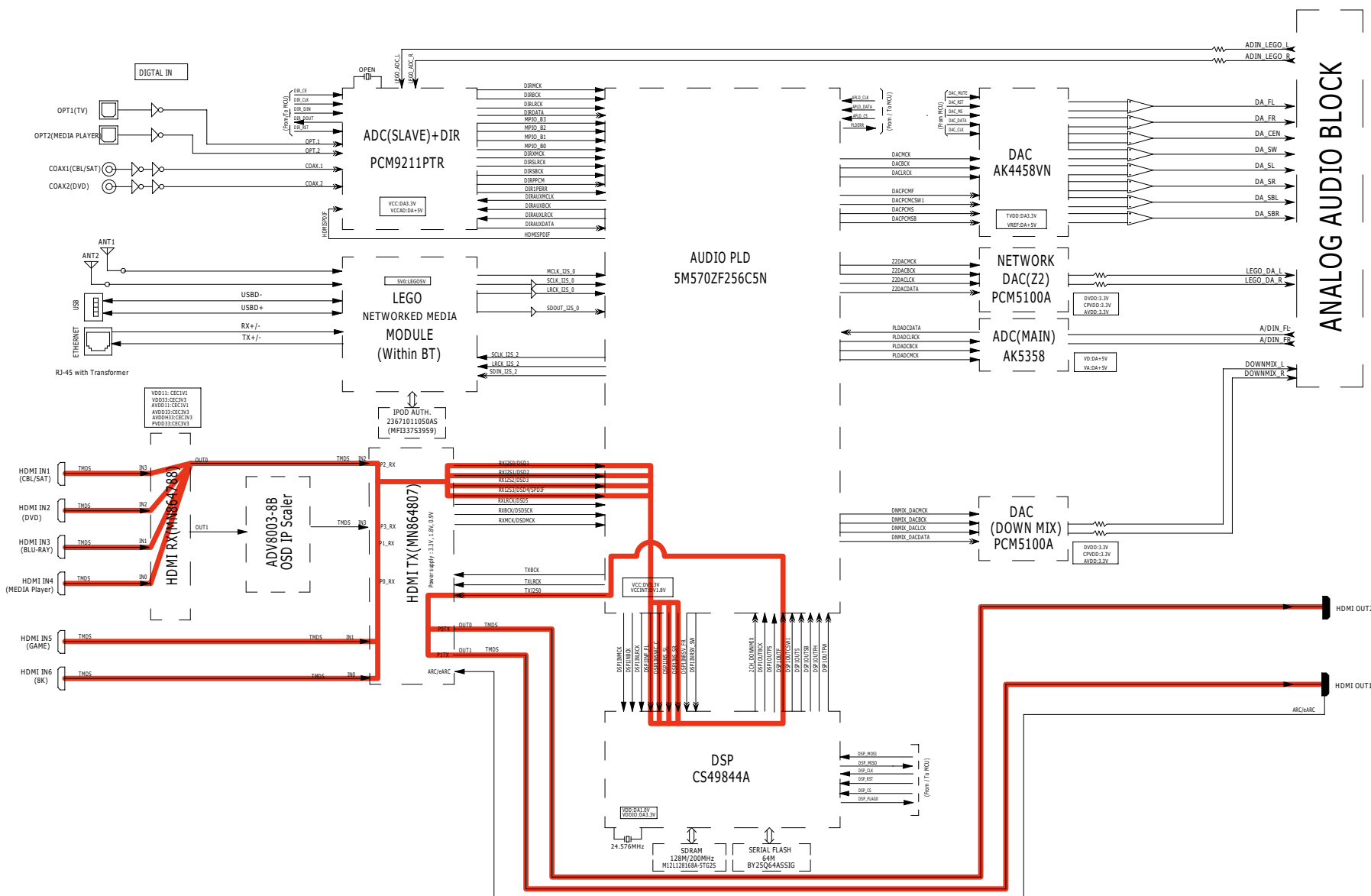
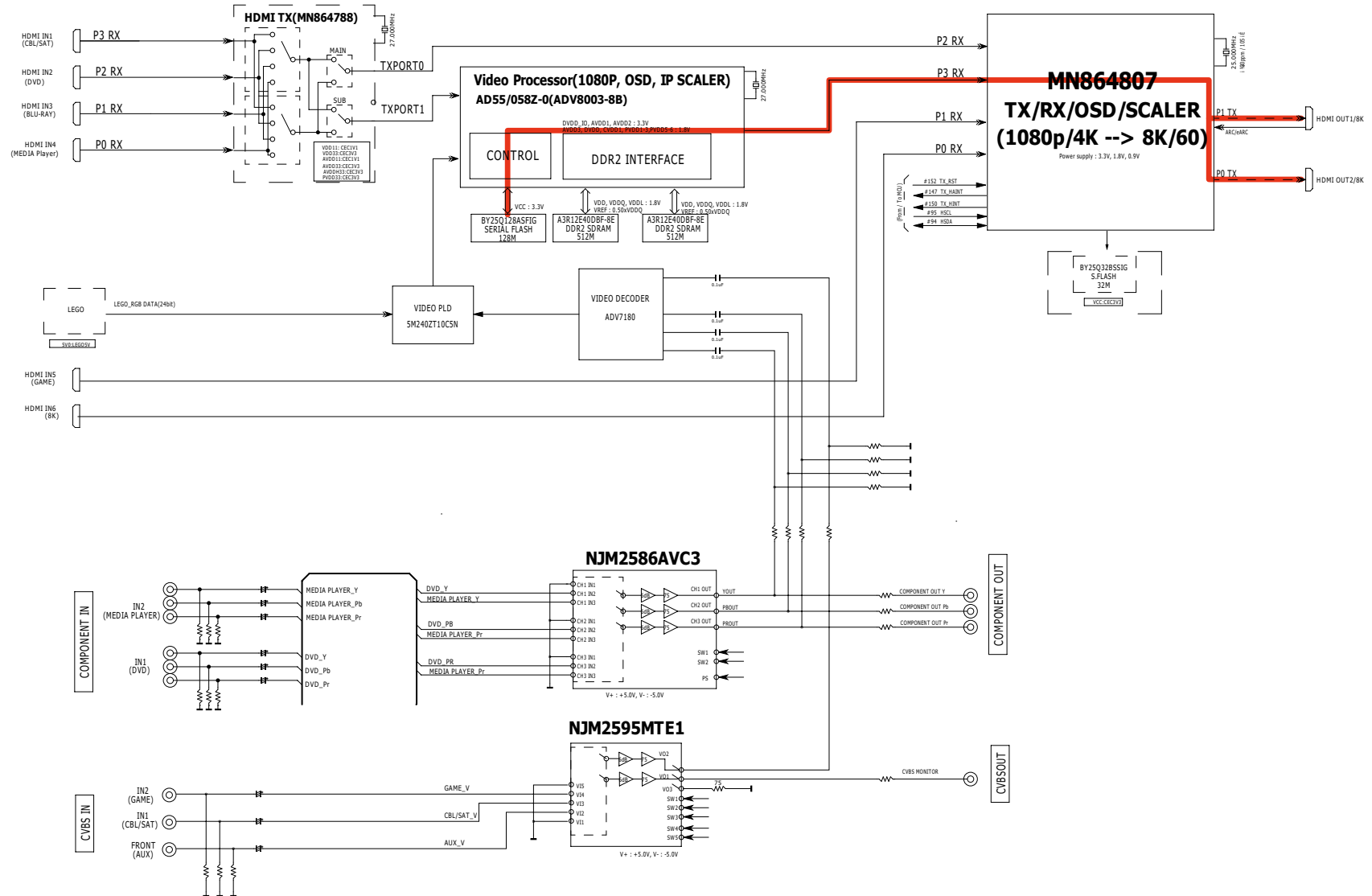


fig.V07

SR5015 VIDEO BLOCK



JIG FOR SERVICING

Use the following jigs (extension cable kit) when repairing the PCBs.
Order with your dealer for the jigs your dealer if necessary.

CAUTION : Incorrect connections may cause malfunction.

Connection of Jig for DIGITAL PCB

---Items to Be Prepared---

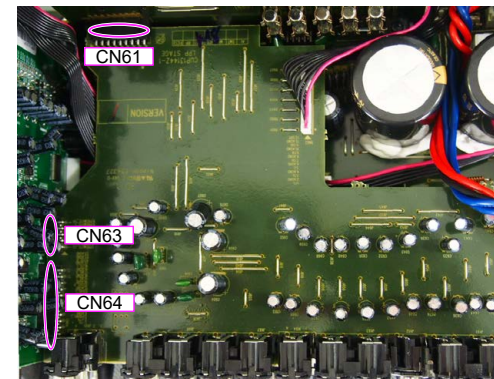
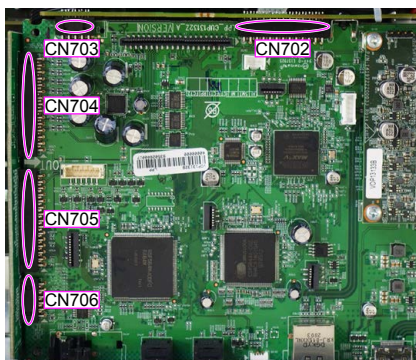
8U-110084S : EXTENSION UNIT KIT	:	1 Set
8U-110136S : EXTENSION UNIT KIT	:	1 Set
900639103810S : JIG 29P EXTENSION CABLE :	:	2 Set
943639104310S : 5P EXTENSION CABLE :	:	1 Set
Insulation sheet (Not supplied)	:	3 sheet
Ground lead (Not supplied)	:	3 pc

-Proceeding-

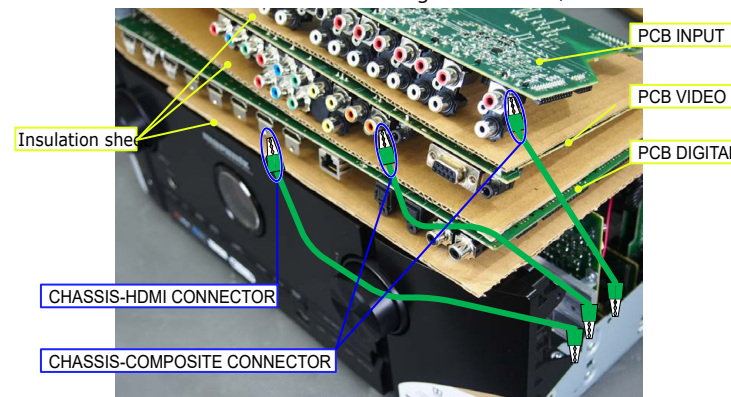
(1) Remove the screws.



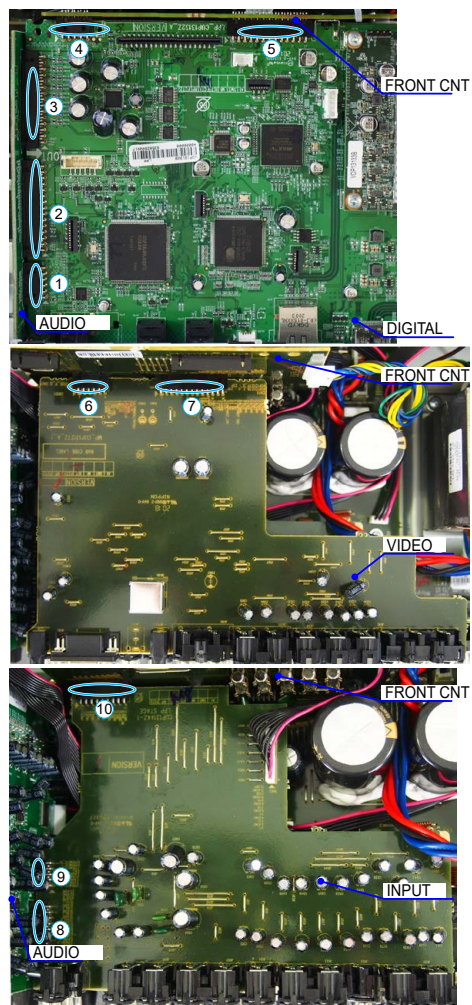
(2) Remove the connector PCB.



- (3) Remove the PCB from the chassis and turn it over.
Place an insulation sheet larger than the PCB underneath the PCB.
※ Connect the earth of the PCB to the chassis using an earth wire, etc.



(4) Connect the expansion cables.



Board-to-Board Connections

No.	Pin	Ref. No.	PCB		Ref. No.	PCB
①	11pin	CN501	AUDIO	↔	CN706	DIGITAL
②	29pin	CN502	AUDIO	↔	CN705	DIGITAL
③	29pin	CN507	AUDIO	↔	CN704	DIGITAL
④	13pin	CN122	FRONT CNT	↔	CN703	DIGITAL
⑤	25pin	CN121	FRONT CNT	↔	CN702	DIGITAL
⑥	11pin	CN123	FRONT CNT	↔	CN151	VIDEO
⑦	25pin	CN124	FRONT CNT	↔	CN111	VIDEO
⑧	23pin	CN506	AUDIO	↔	CN64	INPUT
⑨	6pin	CN505	AUDIO	↔	CN63	INPUT
⑩	17pin	CN142	FRONT CNT	↔	CN61	INPUT

ADJUSTMENT

Adjusting Idling Current

NOTE : Adjusting the idling current when "ECO Mode" is set may damage the Power AMP.

1. Preparation

- (1) Prepare a DC voltmeter.
- (2) Place the unit under normal usage conditions, away from highly ventilated areas such as next to an air conditioning machine or electric fan.
The set requires an ambient temperature of 15°C to 30°C and standard humidity.
- (3) Settings of This Unit
 - POWER (Power source switch) STANDBY
 - SPEAKER (Speaker terminal) No load
 (Do not connect equipment such as speakers or dummy resistors.)

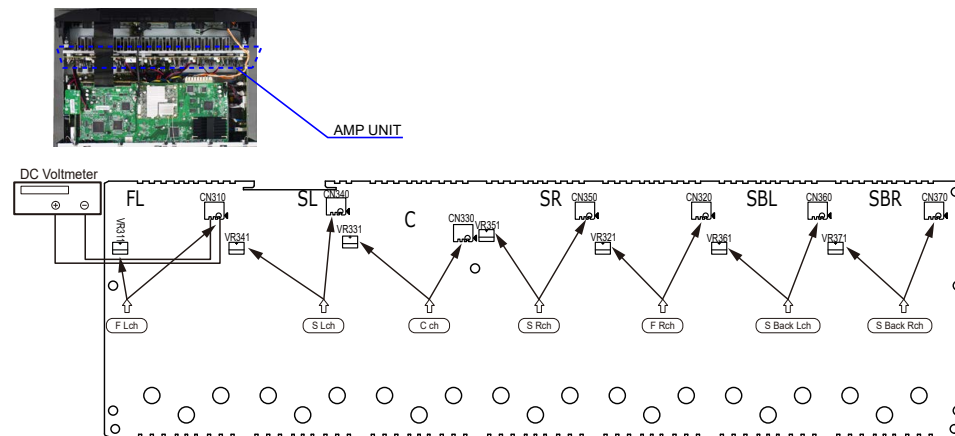
2. Adjustment Procedure

- (1) Make sure that "ECO Mode" is off.
 - Press the "SETUP" button on the remote control to display the GUI menu.
 - Press the cursor button to select "General" → "ECO" → "Mode" → "Off".
- (2) Remove the top cover and turn **VR311** (ALL Channel) of the AMP PCB counterclockwise(↺) as far as possible.
- (3) Connect the DC Voltmeter to the test points.

FRONT-Lch	: CN310	: VR311
FRONT-Rch	: CN320	: VR321
CENTER ch	: CN330	: VR331
SURROUND-Lch	: CN340	: VR341
SURROUND-Rch	: CN350	: VR351
SURROUND-BACK Lch	: CN360	: VR361
SURROUND-BACK Rch	: CN370	: VR371
- (4) Connect the power cord to an outlet. Next, press the power button to turn on the power.
- (5) Set this unit as follows.

MASTER VOLUME	: "----" (↺ min.) : turn counterclockwise to the lowest position.
SPEAKER (Speaker terminal)	: No load

 (Do not connect equipment such as speakers or dummy resistors.)
 MODE : MCH STEREO
 FUNCTION : TUNER
- (6) Turn **VR311** clockwise (↻) and adjust the voltage of the test point to "**8.0mV ± 0.5mV DC**" within 2 minutes.
- (7) Check whether the voltage is within the range "**8.0mV +1mV/-2mV DC**" 10 minutes after adjustment.
- (8) Adjust the variable resistance of each channel using the same method.



PROCEDURE AFTER REPLACING THE PCB.

PROCEDURE AFTER REPLACING THE U-COM, ETC.

FIRMWARE UPDATE PROCEDURE

1. Items necessary for update
2. Update preparation with a USB flash drive
3. Update method when the DIGITAL PCB or network module is replaced (Using a USB flash drive)
4. Update Method for Service Region Settings
5. Normal Firmware Update Method from USB Flash Drive
6. Normal Firmware Update Method from OTA
7. About the error codes

PROCEDURE AFTER REPLACING THE PCB.

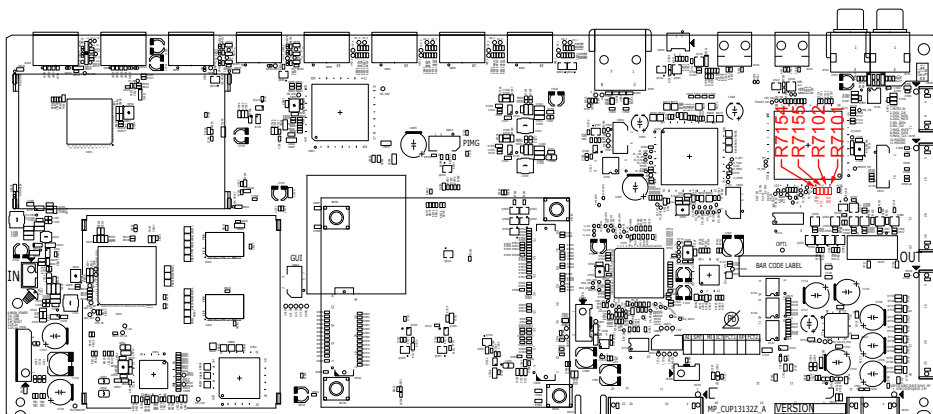
The procedure after replacing the printed circuit boards is as follows.

(1) Change the resistor for setting the region.

Model Area	DIGITAL PCB			
	R7101	R7102	R7154	R7155
North America (U)	OPEN	0	OPEN	10K
Europe (N)	0	OPEN	OPEN	10K
Europe (DAB N)	0	OPEN	10K	OPEN
China (K)	10K	10K	OPEN	10K

See the PCB below.

(2) Be sure to replace the software with the latest version.



PROCEDURE AFTER REPLACING THE U-COM, ETC.

The procedure after replacing the MCU (microprocessor), flash ROM, etc. is as follows.

Implement the update method when the DIGITAL PCB or network module is replaced.

PCB Name	Ref. No.	Description	Procedure after Replacement	Remark
DIGITAL	IC711	R5F564MJCDFC	B	SOFTWARE : Main
DIGITAL	IC762	BY25Q64ASSIG	B	SOFTWARE : DSP ROM
DIGITAL	IC814	BY25Q128ASFIG	B	SOFTWARE : GUI ROM
DIGITAL	IC835	BY25Q32BSSIG	B	SOFTWARE : PIMG ROM
DIGITAL	IC751	5M570ZF256C5N	C	SOFTWARE : AUDIO PLD
DIGITAL	IC861	5M240ZT100C5N	C	SOFTWARE : VIDEO PLD
MODULE	C11	NETWORK MODULE	D	SOFTWARE : Network

Procedure after Replacement

A : The software has been written. The software is not written at the time of replacement.

B : The software has been written. The software may need to be rewritten by version updates. Check the version.

C : The software has not been written. The software needs to be written after replacement.

See "[FIRMWARE UPDATE PROCEDURE](#)" for information on writing the software.

D : The software has been written. Be sure to rewrite with the latest software for your service region.

See "[3. Update method when the DIGITAL PCB or network module is replaced \(Using a USB flash drive\)](#)" for information on rewriting the software.

FIRMWARE UPDATE PROCEDURE

1. Items necessary for update

Items necessary for update are as follows.

Update Type	Needed Part for Update	Requirement	Offered / not Offered		
			Standard Service Equipment Not offered by D&M	Purchase from D&M Article code	Download from SDI
Via USB	USB flash drive (USB 2.0 : Min 1GB) • We recommend a USB memory device that has an LED installed.	Formatting FAT16 or FAT 32	X	-	"Table 1" or "Table 2"
Via OTA	Internet Connection by Broadband Circuit	-	X	-	-
	Modem	-	X	-	-
	Router	-	X	-	-
	Ethernet cable (CAT-5 or greater is recommended)	-	X	-	-

Table 1

Update download file when the DIGITAL PCB or network module is replaced

Model Name	Model Area	Download from SDI
SR5015	ALL	avr_40.prod.update.factory.xxxx.zip

Table 2

Update download file when the firmware is updated (Two files, "HW component" and "LEGO component")

Model Name	Model Area	Download from SDI		
		For HW component		For LEGO component
SR5015 U	North America (U)	Product ID : 100100810100	DPMS_SR5015ALL_LEGO_xxxx.zip	heos_40.prod_x.xxx.xx.zip
SR5015 N SR5015DAB N	Europe (N)	Product ID : 100100810200		
SR5015 K	China (K)	Product ID : 100100810500		

2. Update preparation with a USB flash drive

You can update the firmware by downloading the latest version with USB flash drive.

2.1. Connecting to the USB flash drive

(1) Preparation

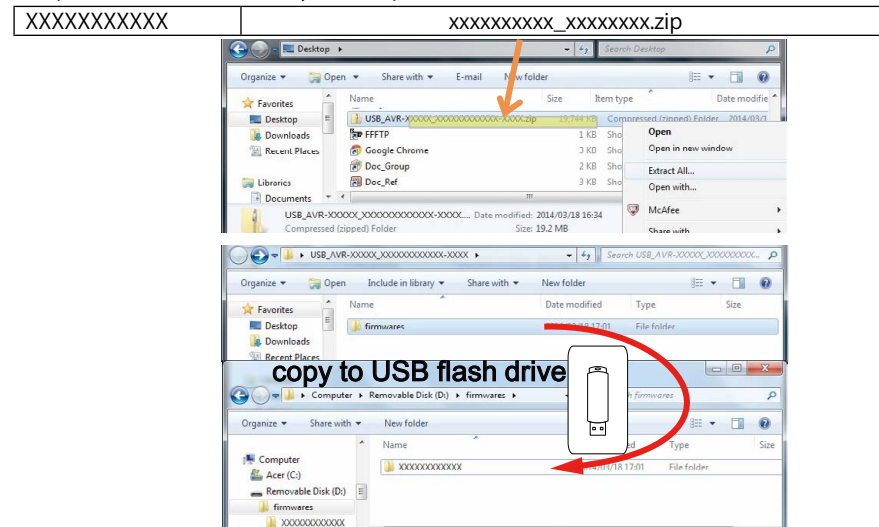
- Windows PC
- USB flash drive format : Prepare a USB flash drive formatted in FAT16 or FAT32.
※We recommend a USB flash drive that has an LED installed.

NOTE :

- Use a memory that supports USB2.0.
- Do not run the USB flash drive through a hub.
- Do not connect a computer to the USB port of this unit using a USB cable.
- Do not use an extension cable when connecting the USB flash drive.
- Save the update file on a blank USB flash drive for use.
- If a USB flash drive cannot be updated, replace it with a different USB flash drive and perform the update again.

2.2. Unzipping the Downloaded File

Unzip the downloaded file on your computer.



There are folders or files after unzipping.

Copy these folders or files onto the USB flash drive.

The folders or files must be placed in the root directory of the USB flash drive.

3. Update method when the DIGITAL PCB or network module is replaced (Using a USB flash drive)

3.1. File structure on USB flash drive

DIGITAL PCB or network module is replaced onto the USB flash drive in the following structure.

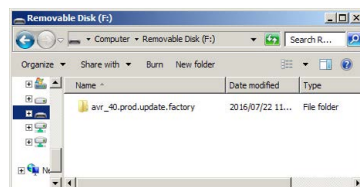
After unzipping the files, store them in the root of the same USB flash drive.

Model Area	Download from SDI
ALL	avr_40.prod.update.factory.xxxx.zip

USB flash drive root

+ avr_40.prod.update.factory
+ xxxxxxzz.ota-download
+ heos_40.prod.update.factory

xxxxxx : Model name
zz : Region



3.2. Start the update.

NOTE :

- Remove the LAN cable from this unit when updating.
(Do not connect to a wired or wireless network.)
- The GUI menu setting details and image quality adjustment setting details are initialized when Firmware Factory Restore is performed. Therefore, take a note of the setting details beforehand and reconfigure the settings after update.
- Do not remove the USB flash drive until updating is completed.
- Do not turn off the power until updating is completed.
- It takes a maximum of approximately 25 minutes for update to complete.

Once an update is started, normal operations cannot be performed until it is completed.

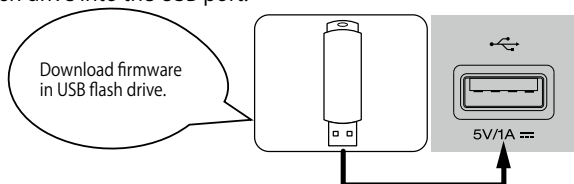
- Press the power button to turn on the power.
- Wait for this unit to start up.
- Set the input source to HEOS Music.
Check that the display is as shown below.

Display(Main Display)

L1	HEOS	or	No Network Connection
L2	TuneIn Internet Radio		

L2 : Content of the display is scrolled.

- Insert the USB flash drive into the USB port.



- USB Update starts automatically.
The Standby LED lights red.

Display during USB update (Main Display)

L1	Wait
L2	



L1	Updating
L2	xx%
L3	xxmin



L1	Update
L2	Complete

It takes a maximum of approximately 25 minutes for update to complete.

- The unit restarts when update is complete.
※When update is complete, the folder name on the USB flash drive changes to "avr_40.prod.update.factory.
done". To use the files again, delete the ".done" part.

- Execute Firmware Factory Restore.
While holding down buttons "M-DAX" and "TUNER PRESET CH +" simultaneously, press the power button to turn on the power.

Display during Firmware Factory Restore(Main Display)

L1	Restore
L2	FW...



L1	Restore
L2	xx%
L3	xxmin



L1	Complete
----	----------

It takes approximately 15 minutes for Firmware Factory Restore to complete.

- Execute Service Region Settings.
See "4. Update Method for Service Region Settings"
- Check that the version is the specified version. See "1. Version Display Mode"
- If necessary, use OTA or the USB flash drive to update the firmware to the newest version.
※We recommend using the firmware update method using OTA.
See "5. Normal Firmware Update Method from USB Flash Drive" or "6. Normal Firmware Update Method from OTA"

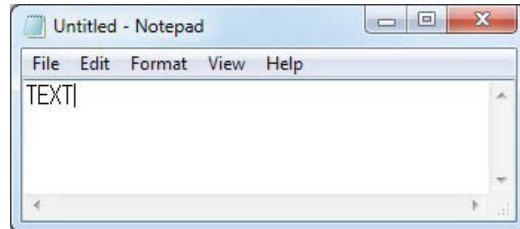
4. Update Method for Service Region Settings

Copy the Service Region Settings from the USB flash drive to this unit.

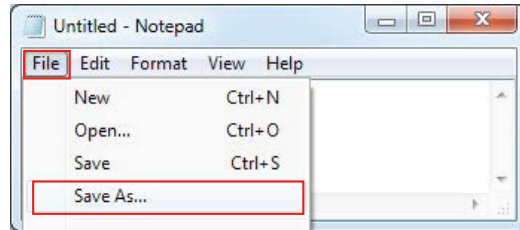
4.1. Creating a Service Region Settings file

(1) Click [Start button] - [Accessories] - [notepad] on the PC to launch the notepad.

(2) Enter "TEXT".



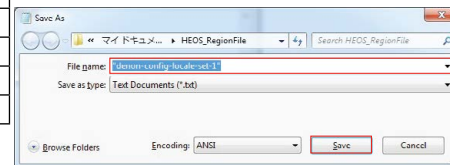
(3) Click "File", and then click "Save As...".



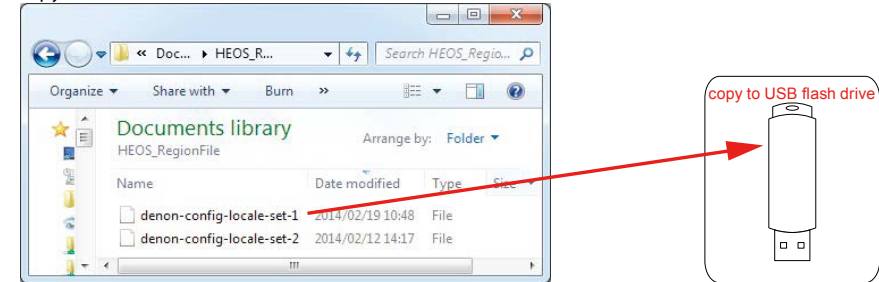
(4) Enter the file name and click the Save button.

NOTE : Enter the file name in double quotation marks. (The file extension is not required.)

Service Region	File name
North America	"denon-config-locale-set-1"
Europe	"denon-config-locale-set-2"
Japan	"denon-config-locale-set-3"
Australia	"denon-config-locale-set-4"
Korea	"denon-config-locale-set-5"
China	"denon-config-locale-set-6"
Israel	"denon-config-locale-set-7"



(5) Copy the files created on the USB flash drive.



4.2. Starting Service Region Settings

NOTE :

- Remove the LAN cable from this unit when updating. (Do not connect to a wired or wireless network.)
- We recommend a USB memory device that has an LED installed.

(1) Press the power button to turn on the power.

(2) Wait for this unit to start up.

(3) Set the input source to HEOS Music.

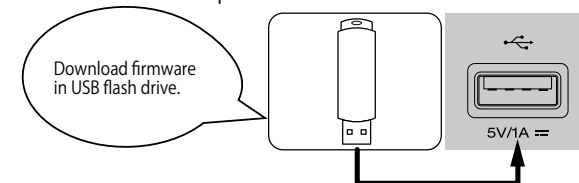
Check that the display is as shown below.

Display(Main Display)

L1	HEOS	or	
L2	TuneIn Internet Radio		No Network Connection

L2 : Content of the display is scrolled.

(4) Insert the USB flash drive into the USB port.



(5) Wait for at least 10 seconds before removing the USB flash drive.

(If the USB flash drive has an LED, this LED will be flashing. Remove the USB flash drive when the LED stops flashing.)

5. Normal Firmware Update Method from USB Flash Drive

5.1. File structure on USB flash drive

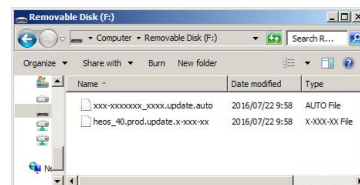
Copy the normal update files onto the USB flash drive in the following structure.

After unzipping the HW component USB update files for the target model and LEGO USB update files, store them in the root of the same USB flash drive.

Model Area	Download from SDI	
	For HW component	For LEGO component
North America (U)	DPMS_SR5015ALL_LEGO_xxxx.zip Product ID : 100100810100	heos_40.prod_x.xxx.xx.zip
Europe (N)	DPMS_SR5015ALL_LEGO_xxxx.zip Product ID : 100100810200	
China (K)	DPMS_SR5015ALL_LEGO_xxxx.zip Product ID : 100100810500	

USB flash drive root

+ SRxxxx_xxxx.update.auto
+ heos_40.prod.update.x-xxx-xx



5.2. Start normal update

NOTE :

- Remove the LAN cable from this unit when updating.
(Do not connect to a wired or wireless network.)
- Do not remove the USB flash drive until updating is completed.
- Do not turn off the power until updating is completed.
- It takes a maximum of approximately 25 minutes for update to complete.

Once an update is started, normal operations cannot be performed until it is completed.

The GUI menu settings and image adjustment settings of this unit may be initialized.

Note down the settings before updating, and set them again after updating.

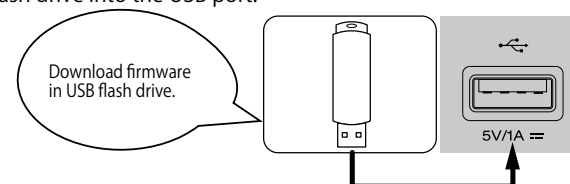
- (1) Press the power button to turn on the power.
- (2) Wait for this unit to start up.
- (3) Set the input source to HEOS Music.
Check that the display is as shown below.

Display(Main Display)

L1	HEOS	or	
L2	TuneIn Internet Radio		No Network Connection

L2 : Content of the display is scrolled.

- (4) Insert the USB flash drive into the USB port.



- (5) USB Update starts automatically.

The Standby LED lights red.

Display during USB update (Main Display)

L1	Wait
L2	

↓

L1	Updating
L2	xx%
L3	xxmin

↓

L1	Update
L2	Complete

It takes a maximum of approximately 25 minutes for update to complete.

- (6) The unit restarts when update is complete.
- (7) After updating the firmware, check the version.
See "1. Version Display Mode"

6. Normal Firmware Update Method from OTA

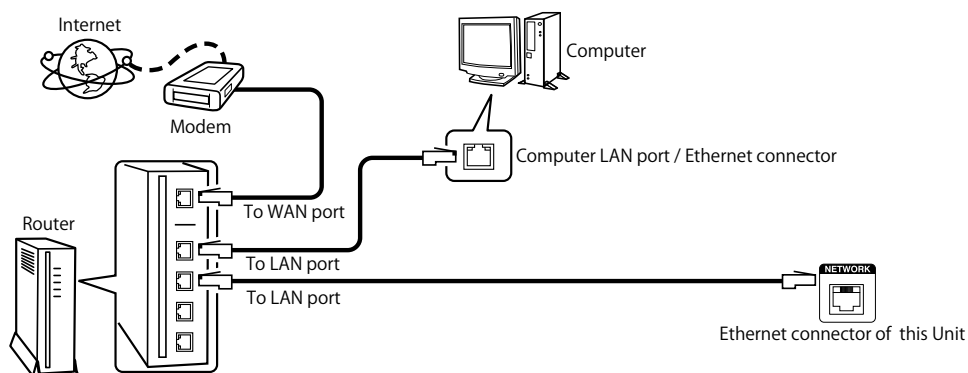
Download the latest firmware from our website and update the firmware.

---Cautions on Firmware Update---

- For the update procedure, a proper broadband Internet connection environment and settings are required.
 - Do not turn off the power until updating is completed.
 - It takes a maximum of approximately 25 minutes for update to complete.
- Once an update is started, normal operations cannot be performed until it is completed.
The GUI menu settings and image adjustment settings of this unit may be initialized.
Note down the settings before updating, and set them again after updating.

6.1. Network Connection

- (1) System Requirements
 - Internet Connection by Broadband Circuit
 - Modem
 - Router
 - Ethernet cable (CAT-5 or greater is recommended)
- (2) Setting



6.2. Check and update the firmware

Check if there is a firmware update available. It is also possible to check approximately how long the update will take.

- (1) Press the "SETUP" button on the remote control to display the GUI menu.
- (2) Press the cursor button to select "General" → "Firmware" → "Check for Update".
- (3) Check update
 - If the firmware version is anything other than the latest version, select "Update Now" to update the firmware.
 - "No update required. Latest version installed." is displayed when the firmware version is up to date.
- (4) OTA Update starts automatically.
The Standby LED lights red.

Display during OTA update (Main Display)

L1	Wait
L2	▶▶▶▶▶

↓

L1	Updating
L2	▶▶▶ xx%
L3	xxmin

↓

L1	Update
L2	Complete

It takes a maximum of approximately 25 minutes for update to complete.

- (5) The unit restarts when update is complete.
- (6) After updating the firmware, check the version.
See "1. Version Display Mode"

7. About the error codes

See the table below for details on error codes and solutions when updating the firmware.
Error codes are displayed in 4 digits, **YYXX**(**YY** : DeviceID, **XX** : ErrorCode).

Display(Main Display)

L1	Updating
L2	▶▶▶ **%
L3	**min



L1	Error
L2	YYXX
L3	Please check you

Update Error**YYXX** (**YY** : DeviceID, **XX** : ErrorCode)

L3 : Content of the display is scrolled.

Remedies

Error Code (YYXX) (DeviceID/ErrorCode)	Remedies
000A	"Connection failed. Please check your network, then try again."
0009	"Update failed. Please check your network, then try again."
0009	"Upgrade failed. Please check your network, then try again."
YY00 YY01 YY02 YY03 YY04 YY07	"Please check your network, unplug and reconnect the power cord, and try again."
YY00 YY01 YY02 YY03 YY04 YY07	"Please unplug and reconnect the power cord, and try again."
0005	"Incompatible update file found on the USB device. Please check the file."
0006	"Update file is corrupted. Please check the file."
000B	"Please contact customer service in your area." ※ Check the power supply and communication lines of each device.

Device ID table

Device ID (YY)	Device Name
00	General
01	Main CPU
0B	Main FBL (No used)
11	DSP1 or DSP
12	DSP2 ※ Except : AVR-X2700H/AVR-S960H/NR1711/SR5015
13	DSP3 (No used)
19	DSP4 (No used)
15	Audio PLD
22	Video PLD ※ Except : AVR-X2700H/AVR-X2700H/AVR-S960H/NR1711
2A	GUI
2B	PIMG ※ ONLY : AVR-X2700H/AVR-S960H/NR1711/SR5015
33	LEGO

Error Code table

Type code (XX)	Description
00	Logical error
01	Error during erasing
02	Error during writing
03	Error during verifying
04	No access for the component
05	Package mismatched. Product ID, package version un-matched of the package manifest
06	Unpack dis-available of component package file
07	Time out
08	Latest firmware has already installed.
09	Error during download
0A	Error connection
0B	Hardware Error

---Checking the Firmware Version After the Update---

After updating the firmware, check the version.

See "1. Version Display Mode"

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